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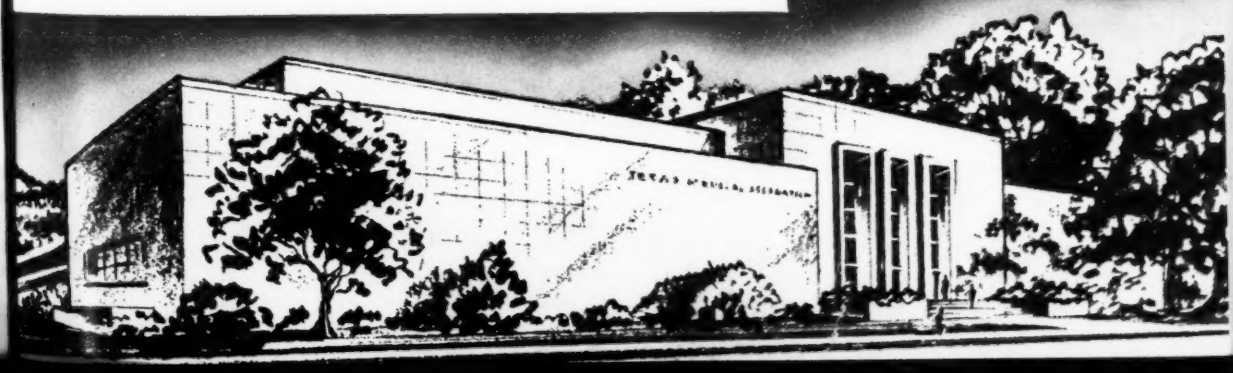

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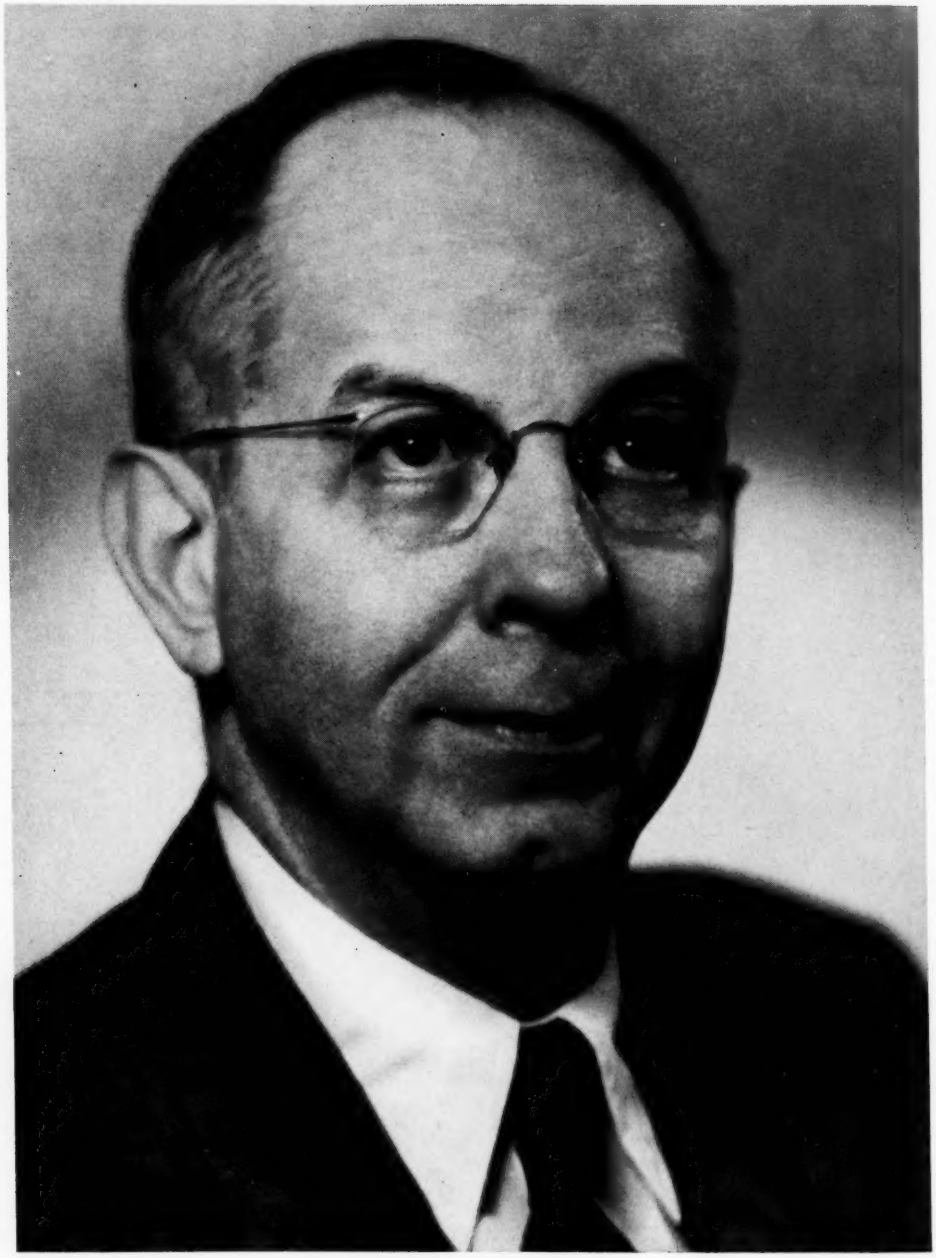

MILFORD O. ROUSE, M. D.
Ninety-First President, Texas Medical Association
DALLAS, TEXAS

VOLUME 52 • NUMBER 5 • MAY, 1956

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Dr. Milford O. Rouse

Dr. Milford Owen Rouse, Dallas, accepted the President's gavel Wednesday, April 25, at the Texas Medical Association's eighty-ninth annual session in Galveston. He presented the Past President's medallion to his predecessor, Dr. J. Layton Cochran, San Antonio.

Dr. Rouse is the ninety-first President of the Association. He was born in Jacksonville, Texas, August 10, 1902, son of a Baptist minister, teacher, and author, William Thomas Rouse, Th. D., and Sallie (Milford) Rouse. They were Southern Baptist missionaries, and during Dr. Rouse's boyhood, he spent a year in Brazil and a year in Cuba with them. He was graduated from Vernon High School in 1918, having represented his school two years at the Interscholastic League debating contests in Austin.

Entering Baylor University, Waco, after his graduation from high school, he became business manager of the college newspaper, *The Lariat,* in his freshman year; edited the yearbook, "The Round-Up," in 1922; represented his university in state oratorical and debate contests; and was a charter member of the Baylor Chamber of Commerce. He received his bachelor of arts degree in 1922 and his master of arts degree in 1923. While working toward the latter, he was a teaching fellow in zoology.

Dr. Rouse began his medical training at Baylor University College of Medicine, Dallas, in 1923, and was graduated in 1927, during which year he edited the medical section of "The Round-Up." While in medical school, he was a night technician in the university's laboratories for three years, a student assistant in pathology one year, and an extern at Baylor University Hospital during his senior

year. With the rank of first lieutenant, he served an Army internship at the hospital at Fort Sam Houston in 1927-1928.

Returning to Dallas in the latter year, Dr. Rouse became associated with Dr. H. G. Walcott, a pioneer gastroenterologist. They were partners until 1935, when Dr. Rouse started the firm of Drs. Rouse and Patterson (Dr. Cecil O. Patterson), which now is a partnership of Drs. Rouse, Patterson, Herbert A. Bailey, F. Clark Douglas, and John W. Fisher. Dr. Rouse has limited his work to gastroenterology.

In 1941-1942, Dr. Rouse served as president of the Baylor University Ex-Students Association; and he taught in the Baylor University College of Medicine's Department of Medicine when that school was located in Dallas. Since 1943, he has been clinical professor of medicine (gastroenterology) in the University of Texas Southwestern Medical School. He is the author of 22 scientific papers which have appeared in publications ranging from the *Dallas County Medical Journal* to the *Journal of the American Medical Association.*

Dr. Rouse's positions in the Texas Medical Association have included chairman of the Council on Medical Education and Hospitals, 1948-1954; Delegate to the American Medical Association; and chairman of the Texas Delegation for the past two years. He has been a member of the Southern Medical Association for 25 years, and was chairman of the Section on Gastroenterology in 1952; he has been councilor from Texas for six years and was chairman of the Council in 1955. He also served as president of the Dallas Southern Clinical Society in 1947, and is a charter member and a past president of the Texas Society of Gastroenterologists and Proctologists; a fellow of the American College of Physicians; a diplomate of the American Board of Internal Medicine and of the subspecialty Board of Gastroenterology; a member of the American Gastroenterological Association; Texas Academy of Internal Medicine; Texas Geriatrics Society; Dallas Academy of Internal Medicine; and Xi chapter of Phi Chi medical fraternity, which he represented at the Grand Chapter Phi Chi meeting in 1926. For a number of years, he has served as secretary of the Xi of Phi Chi Benefit Association.

He is a charter member of the board of trustees of the Dallas Health Museum, and has served as secretary of the board since 1946. For his work with the museum he received the first health award from the Dallas Hospital Council in 1947. He is chairman of the health committee of the Greater Dallas Planning Council, and a member of the health committee of the Dallas Chamber of Commerce.

Dr. Rouse does not confine his interests to medicine; he is a thirty-second degree Scottish Rite Mason, a member of Hella Temple, the Knights Templar, and the Optimist Club. He taught a Bible class in the old Dispensary Building at Baylor University College of Medicine for several years, moving later to the Scottish Rite Hospital adjacent to Southwestern Medical School. Now, he teaches the Berean Bible Class for young men in the Lakeside Baptist Church, where he is a deacon. From these classes have gone five medical and dental missionaries. He enjoys home movies.

Dr. Rouse married a Baylor classmate, Miss Leaureame McDavid of Henderson, on July 26, 1927. They have one daughter, Mrs. Curtis L. Sawyer, Dallas, and two grandsons.

Dr. Rouse is a hard working man; one speaker said, in nominating him for the position of President-Elect, ". . . he will have many things done before the rest of us know it needs to be done." As evidenced by his adopted minority report to the American Medical Association in 1955 regarding the relations of osteopathy and medicine, he is a man who stands firmly when convinced he is right. Yet he acts quietly, courteously, and modestly. Such a man is capable of winning the respect and fullest cooperation of his colleagues, and with such cooperation, of advancing the causes of the Texas Medical Association.

Medical Licensure

American medicine is fortunate that each state has its own licensing board. The Texas State Board of Medical Examiners is composed of 12 doctors of medicine and doctors of osteopathy in active practice. These men are appointed by the Governor, and they have a responsibility to all the people, not just a segment of the population. Their responsibility is to administer the laws with which they are charged in a fair and equitable manner. I hope the time never will come when we have a national licensing agency, for I am confident that the different state boards are doing a good job.

There are two methods of licensure, one is by examination and one is by reciprocity or endorsement.

The Texas board holds examinations twice each year, in June and December. These examinations may be taken in two parts—half after the sophomore year and half after graduation from medical school—or one may take the entire examination at one time.

Texas reciprocates with all 48 states. This means that an applicant, to obtain a license in Texas by reciprocity, must have graduated from a class "A" medical school or a school approved by the Texas board. Some states are more lenient than others in accepting physicians for licensure, and if a particular state licenses a man from an unapproved school, for example, Texas would not give this man a license by reciprocity or endorsement.

The number of doctors licensed by examination in Texas varied from 403 in 1953 to 344 in 1954, and jumped to 440 in 1955. The number of doctors licensed by reciprocity during the same time was 232 in 1953, only 197 in 1954, and 212 in 1955. The number of physicians registered in Texas has climbed steadily from 11,689 in 1953 to 12,597 in 1955. The latter figure represents 9,467 doctors in the state and 3,130 out of the state, and includes 978 osteopaths.

One major problem in licensing has been created by the foreign graduates. About 4,000 foreign physicians, most of them from unapproved schools, are coming to this country each year. We graduate about 7,000 physicians in the United States annually. There are 534 medical schools outside the United States, and it is impossible to examine all of these schools because, first, we do not have the money, and second, some would not let us examine them if we wanted to. Our problem is, "How shall we license the qualified foreign physician?" At present, we are working to set up an evaluation service for foreign medical schools sponsored by the American Medical Association, American Hospital Association, Association of American Medical Colleges, and Federation of State Medical Boards of the United States. In approaching this problem, the Texas State Board of Medical Examiners is striving to license all qualified doctors, both foreign and American, for we feel that the public can utilize as many qualified physicians as can be made available.

—M. H. CRABB, M. D., Fort Worth.

Baylor's Issue

The medical schools of Texas naturally have contributed much to enhance the scientific sections of the *Texas State Journal of Medicine* through the years, for in these centers are gathered some of the outstanding researchers and clinicians of the country. It would be a mistake to depend entirely on these schools and their faculties for articles of value to practicing physicians, and efforts are made consistently to encourage authors in private practice, in smaller communities, and without medical school affiliation. Nevertheless, it has seemed that an occasional issue devoted exclusively to material from one of the state's medical schools might have merit.

Baylor University College of Medicine was invited to be responsible for the original articles in this issue, and a symposium on chronic illness has been prepared by faculty members

from several departments. Dr. William S. Fields, professor of neurology, accepted the burden of coordinating the efforts of his colleagues and of spurring them on to completion of the project. It is a pleasure to welcome Dr. Fields as guest editor for this issue, and appreciation is due him and the other faculty members who cooperated.

The University of Texas Medical Branch, Galveston, and the University of Texas Southwestern Medical School, Dallas, also have been invited to provide articles for special issues, and it is anticipated that these will appear soon.

Galveston Was Host

Intermittent rain failed to dampen the enthusiasm of the record breaking number of doctors, wives, exhibitors, and visitors who crowded Galveston for the eighty-ninth annual session of the Texas Medical Association, April 21-25. A total of 2,807, including 1,473 Association members and 575 Auxiliary members, registered. In Fort Worth in 1955 the previous high total of 2,685 was reached; 1,685 members of the Association registered in 1948 in Houston, and more members than this year were present at sessions in 1940, 1948, 1953, and 1955. The total in Galveston was reached with 24 guests, 15 special speakers, 209 exhibitors, and 511 visitors and students, in addition to member doctors and their wives.

A resumé of the Galveston meeting appears in the Organization and Auxiliary sections of this *Journal.*

Succeeding Dr. J. Layton Cochran, San Antonio, and Mrs. Joseph H. McCracken, Jr., Dallas, in the presidency of the Association and Auxiliary, respectively, are Dr. Milford O. Rouse, Dallas, and Mrs. Richard C. Bellamy, Liberty. Dr. Denton Kerr, Houston, and Mrs. H. S. Renshaw, Fort Worth, were named Presidents-Elect.

The presence of Dr. Dwight H. Murray, Napa, Calif., President-Elect of the American Medical Association; Mrs. Mason G. Lawson, Little Rock, Ark., President of the Woman's Auxiliary to the AMA; Mrs. John J. O'Connell, St. Louis, President of the Woman's Auxiliary to the Southern Medical Association; and Lt. Col. John P. Stapp, USAF (MC), Holloman Air Force Base, N. Mex. (much publicized "space surgeon"), lent variety to a prestige packed out-of-state group who brought their special contributions to the program.

Again, the splendid cooperation of 15 related specialty societies and other organizations interested in persons who work for health progress in Texas meant that almost every facet of medicine—scientific and social—could be examined and enjoyed within a five day period on the island which many Texas doctors remember nostalgically from student days. Local committees under the leadership of Dr. Edward R. Thompson and Mrs. M. A. Caravageli did much to assure the success of the 1956 session.

Group Nursing

Group nursing—instituted during the war years on an emergency basis—may be the answer to a current challenge, that of providing adequate care for a maximum of patients with a limited number of professional nurses. Much has been done by various groups and individuals to increase the supply of nursing personnel, but another solution is the possibility of making better use of nurses already available.

The Texas Commission on Patient Care is one group interested in this approach to the nursing shortage and has conducted a survey on the subject. The Commission is not advocating the substitution of group nursing service for all private duty nursing, but it is suggesting that for many patients needing the attention of special nurses, group nursing offers certain advantages to the patient, the physician, the hospital, and the nursing profession.

The Commission has commented further

that luxury nursing in the private duty nursing field should be reduced to the minimum so that professional nurses may be available for patients who truly require special care, that private duty nurses should be discontinued at the earliest possible time the patient can safely do without this attention, and that whenever possible group nursing should be used to help curtail the large number of unfilled calls.

Group nursing is available in most districts in Texas, but few calls are received for this type of nursing service, in spite of such advantages as a larger number of patients receiving professional nursing care, of the nurse operating at her highest level of competence, and of the financial gain for both patient and nurse. On the other hand, there are complications, including the facts that complete cooperation of hospitals, doctors, patients, and nurses must be maintained for successful group nursing; a national nurses' organization has a policy that private duty group nursing must be confined to two patients on an emergency basis only, until another private duty nurse is available; and the private duty nurse doubles her liability by caring for two patients rather than one.

There is no doubt that group nursing deserves careful consideration by all those concerned with patient care. It is hoped that the physicians in Texas will study group nursing in relation to their own situation and will cooperate in working out a definite plan if that seems feasible.

Journal Changes

Certain changes which you may notice in this issue have been made as a direct result of the opinions of almost 1,200 physicians who returned the *Journal* questionnaires, which recently were sent to every member of the Texas Medical Association.

The President's Page and On Call are in new positions, and are on regular paper stock (a number of physicians polled objected to the stiff paper inserts ahead of the main reading pages). The President's Page is between the editorials and the Original Articles section. Since these are two of the best read parts of the *Journal,* the page between them should receive attention.

On Call will appear henceforth as a monthly feature article on a current project of the Association, the work of a council or a committee, or any other particularly worth-while or timely subject directly connected with the Association. No standing headline will be used; the article will appear as a part of the Association section, and the headline each month will indicate the contents of the article. It is hoped that by broadening the scope of subject matter, this monthly article will have more general appeal for the reader.

A number of county societies have found new projects and new ways of dealing with old problems, and it is felt that these are worth passing along in print. Emphasizing activities of general interest, reports from various societies have been combined to give an idea of what groups throughout the state are doing. Material for this section will be taken from minutes of county society meetings, and secretaries may send copies of minutes or reports of special projects to the *Journal* for consideration.

In the future, an effort will be made to publish Auxiliary articles of special interest to physicians. Items of primary interest to the ladies will appear in the Auxiliary's *News Letter,* which is received by every member of the Auxiliary, whereas few see the *Journal.*

A more detailed report of the survey results may be found in the Texas Medical Association section of this *Journal.*

The results were gratifying; the high percentage of returns indicates that physicians are interested in the *Journal,* and the Board of Publication and the editorial staff are appreciative of the time and efforts of the doctors who returned the questionnaires. Their thoughtful and candid answers have been, and will continue to be, of immeasurable value in planning a *Journal* which will please most readers.

President's Page

PARTNERS IN HEALTH

It is with sincere humility, gratitude, and optimism that I assume the responsibilities of President of the Texas Medical Association. In this day of multiple, and even formidable, problems of medicine and of the national economy, any honest man would feel his incapacity for leadership were it not for divine guidance and wholehearted support by more than 7,300 physicians. Dr. J. Layton Cochran provided faithful, diligent, capable leadership this past year. I shall try earnestly to maintain the high standards of leadership set by him and his predecessors.

My simple philosophy is that God has a plan for each of us, and that for the physician, He has the unusual plan of personal service to humanity with opportunity and responsibility of civic leadership. The correct relationship between God and the physician is well summarized in the motto over a hospital in France: "I dress his wounds; God heals him." Not for one day would I have the temerity to undertake the practicing of medicine without a sincere desire to be directed by God.

As physicians, we have the privilege of working together with fellow physicians, with our wives, and with many other groups, toward the goal of optimum health for our state and nation. I would like to recognize several of these partners in health.

At the top of the list, I would place our wives—the capable, devoted members of the Auxiliary. They not only help keep us on even keel by sympathetic, wise companionship, but are always happy to work on special projects which improve public relations for medicine.

One of the greatest aspects of partnership is the friendly cooperation between individual physicians, with a sincere desire to work for the good of all patients and the health of the community and yet with the observance of the golden rule in their professional relationships. The medical profession will merit esteem in proportion to the way in which it maintains its highest ideals, as well as the way in which it furnshes the best of medical care.

We are partners in health in the many facets of the work of the Texas Medical Association. We are fortunate in having a beautiful and serviceable building, with a full-time staff of unsurpassed ability and consecration. The most able staff would be limited, however, without the unselfish, enthusiastic work of the several hundred physicians who serve on the Association's councils and committees.

Every council and committee has great responsibilities, particularly those dealing with medical economics including health costs, legislation, liaison with the Texas Bar, and workmen's compensation, as well as the Committees on Tuberculosis, Cancer, Mental Health, and Industrial Health. Real courage is required by the physicians who have the duty of "cleansing the temple" in those rare instances in which a confrere may make a questionable professional fee charge. The current "Searchlight on TB" takes a long step forward in the coordination of constructive effort. In this enterprise, as well as in the field of cancer, mental health, industrial health, and cardiovascular disease, physicians should take the lead; they deserve acknowledged leadership only if they put in the time and effort to work out mutual problems.

Texas physicians have a responsibility in the never ending task of keeping abreast of the tremendous progress in all fields of medicine. Our superb *Texas State Journal of Medicine,* our annual scientific meetings, and the several postgraduate assemblies in Texas play vital roles. Texas has three outstanding undergraduate medical schools, as well as a postgraduate school, and these institutions must have the wholehearted support of physicians.

Next month I shall emphasize the cooperation of other indispensable partners in health—members of the press, workers in paramedical fields, those in public health and health projects of organizations largely sponsored by laymen, and fellow citizens in community activities.

The Texas Medical Association rightfully enjoys great respect. This prestige will be maintained only by the enthusiastic, intelligent, cooperative effort of all of us. Your officers for the coming year pledge their earnest efforts without expectation of any brilliant extravaganzas. We will expect all of you to match our efforts with your faithful work, so that Texas will be the beneficiary in better health.

Milford O. Rouse, MD

ORIGINAL ARTICLES

Problems Of Chronic Illness

A Symposium from Baylor University College of Medicine

Guest Editor:

WILLIAM S. FIELDS, M. D.

Houston, Texas

Foreword

STANLEY W. OLSON, M. D.

Houston, Texas

THE faculty of Baylor University College of Medicine is pleased to have received an invitation from the Editorial Board of the *Texas State Journal of Medicine* to prepare the scientific articles for this issue. We regard it as an opportunity to extend our efforts in medical education to the entire physician population of the state. We are happy to do our part in making the *Journal* an important source of new medical knowledge for our fellow members of the Texas Medical Association.

DR. STANLEY W. OLSON *is dean of Baylor University College of Medicine.*

I should like to formulate briefly the philosophy of Baylor University College of Medicine and to report, also briefly, on the progress that has been made in the past few years.

The College of Medicine under the indomitable leadership of a great Texan, Dr. Walter Moursund, moved to Houston in 1943 in response to an invitation to function as the medical school for the then proposed Texas Medical Center. The spirit that dominated the trustees and faculty in their determination to pioneer in medical education in this new location has continued strong. It has led to the development of excellent facilities for teaching and research. It has resulted in the development of a strong faculty drawn from every major medical center in the United States and from several foreign countries. It has resulted in the careful development of a curriculum designed to provide a sound education in the fundamental aspects of medicine upon which the student can build a career in any branch of medicine.

Baylor is the only private medical school in the state. Its growth in the past 13 years is easily the most phenomenal growth of any private medical school in our country. Although it is operated under the sponsorship of a denominational body, the Texas Baptist Convention, its services are directed in a completely nondenominational manner. No inquiry is made of student or faculty regarding his religious preference prior to association with the school.

The two state medical schools of Texas are required to select their students from among residents of the state. Baylor selects approximately half of its 80 students in each class from this source, about 10 per cent from students who are not bona fide residents but who have taken their premedical studies in Texas, about 20 per cent from the regional area—especially Arizona, New Mexico, and Oklahoma, and the remaining 20 per cent from schools scattered across the nation. From September 1 to December 31, 1955, a total of 850 applications for admission was received. Preference is given to students with a baccalaureate degree.

We regard our students as graduate students who must learn not only the material designated by the faculty but also how to be increasingly responsible for their own educational development. At graduation we expect them to be mature students who are just beginning an educational experience that will last for the rest of their lives.

In keeping with the highest standards of medical education, we have developed a core of full-time teachers in each of the major clinical departments.

These have been ably assisted by a much larger number of clinical faculty drawn from the practicing physicians of the community. An internship and residency program has been developed in the teaching hospitals associated with the school. At present there are more than 225 graduates receiving training of this kind of which one-third are interns and the rest residents and fellows.

Research has become a major concern of the faculty in both the basic science and clinical departments. It is in the exercise of its full potential that the faculty seeks to develop newer knowledge of medicine by means of research. In addition to the basic budget, which is well over a million dollars per year, the school now receives in excess of $600,000 per year in grants for project research. About half of this comes from private health agencies and the other half from the National Institutes of Health, the armed forces, and the Atomic Energy Commission.

These research activities have enabled the faculty to contribute extensively to the medical journals of our country. Approximately 350 articles were prepared in 1955. They have presented their material at national and local meetings and have prepared a wide variety of exhibits, one of which received the gold medal at the American Medical Association convention in San Francisco in 1954.

All of these activities are important in the creation of an educational environment that will be stimulating to the student. But they are expensive! Computed on a student per capita cost basis, Baylor University College of Medicine is spending about $3,000 per student per year, which is just about the median for all private schools in the United States. We have had generous support from individuals, from local foundations, from the Texas Baptist Convention, and from a wide cross section of industry. Until the income of the school can be placed on a more stable basis by the acquisition of permanent endowment, its program will be subject to the fluctuations of its annual income. We have confidence that the people of Texas and the physicians of the state believe in and will support private education just as they have supported state education. Baylor University College of Medicine will use the freedom that it enjoys as a private institution to do those things that are in the best interest of the entire medical profession.

Baylor is a school that is old in tradition in the state of Texas. It has been transplanted to a new location and has flourished vigorously. It strives to uphold the highest standards of medical education with respect to scientific and clinical training and equally with respect to the understanding of the moral and ethical basis of the practice of medicine.

♦ Dr. Olson, Dean, Baylor University College of Medicine, Houston.

Impact Of Chronic Illness On the Family

WILLIAM T. LHAMON, M. D.

Houston, Texas

POPULATION changes during the past several decades, and other factors, have resulted in a greater proportion of older persons in the population. Thus more persons live into the period in which they develop various chronic disabling illnesses. Advances in medicine have done away with or greatly decreased the incidence of many acute illnesses and thereby have increased the relative amount of chronic illness. Along with this alteration in the disease picture have occurred changes in the character of the American family. Group changes are reflected in the changing rank among the various possible causes of death and

DR. WILLIAM T. LHAMON *is M. D. Anderson Professor of Psychiatry at Baylor University College of Medicine.*

disability in such a fashion as to give ever increasing importance to the chronic disabling diseases. Paralleling this increase in the older segment of the population there have occurred some pertinent changes in the character of the family. These changes are of considerable interest and justify a consideration of what happens when chronic disease strikes the family. What are the vulnerable points of the family? What resources are available to the family and what methods could be used by the family to adapt to chronic illness? To what extent may a physician or the community modify the impact of chronic illness on the family? Not all of these questions can be answered with any degree of certainty, but a consideration of them may help develop answers in the future.

A preliminary outline of the nature of the term "chronic disease" is desirable. Essentially such an illness, at least for purposes of this discussion, implies a duration of months rather than weeks. The term implies some belief on the part of the patient and

the family that the disease may be interminable or likely to endure for several years. We assume a certain incapacity in the patient, a restriction of some sort on the daily activities. It is plain that the degree of incapacity produced, the amount of suffering, and the expected outcome with respect to life or death all will have important bearing on family impact. Furthermore the disease itself may have important connotations beyond the concrete disability caused by the disease—as in the case of mental disease or tuberculosis for which there is a good deal of stigma which is in itself a stress and will significantly modify the impact on the family. One should have in mind how the local community feels about the disease because the stress or strain produced in the family by the disease may differ in relation to local opinion about it.

The natural history of many chronic illnesses shows that in time an equilibrium often is reached between the altered structural and functional status and activities of the patient. When the patient returns to activity without complaint or sense of limitation, we consider him "recovered" and in effect no longer suffering from chronic illness despite the fact that irreversible changes in bodily structure or function may have occurred. In this discussion, therefore, we will consider those persons who continue to be disabled in significant degree; who require continued care; and who continue to have complaints, symptoms, and convictions of being ill.

Certain general features of illness in terms of expectations placed upon the ill person have been noted.[2] It is expected that the ill person will maintain the desire to be "well" and that he will seek competent assistance and cooperate in the treatments. In addition, the ill person is expected to lay down his responsibilities while he is ill and to avoid assuming additional obligations. Thus there is the commonly heard saying, you "ought" to go to bed or you "ought" to go to the hospital or to see a doctor. The ill person has an obligation not to try to treat himself but on the other hand to seek out someone authorized and competent to treat him. In the family environment as well as in the community these "rules and regulations" about being sick and about being a patient commonly exist. Thus it is evident that the commonly accepted and even expected outcome of any moderately severe disease is the immediate or quick loss of the sick person from his family responsibilities whether he wishes or not. The pressure of public and social opinion strongly influences him to give up his responsibilities and to be cared for. He is enjoined and expected to dislike being "sick" and to "get well" as soon as possible. At any rate the sick person by definition is removed from effectively carrying out his familial duties. His place in the family with respect to his activities must be left vacant or taken over by someone else; if the sick person carries on his usual activities, he does so against considerable pressure of institutionalized opinion.

FAMILY CHARACTERISTICS

Having described briefly certain characteristics of the ill person and some of the expectations placed upon him, we turn next for a brief look at the characteristics of the family. The family here to be described is the middle class urban and suburban American family of current date. This family may differ in some respects from families in rural regions or from families of lower or higher socio-economic status. However, the middle class family is broadly representative and has been the most thoroughly studied.[1] The process of urbanization and of industrialization occurring generally throughout the country at a fairly rapid rate causes the urban type family increasingly to become pertinent. The considerable increase in living standards generally also makes the middle class family of increasing importance for our purposes. Salient features of the middle class urban family include smallness, isolation, high mobility, concentration of some functions and delegation of many others, and a marked differentiation of roles within the family. There is a high level of emotional tension within the family such that little reserve appears to exist in the sense of ability to absorb moderate or severe stresses easily.

The type family I am describing is nuclear in the sense that it consists of husband, wife, and dependent children. There is no common practice of including grandparents, collateral relatives, or children beyond the age of dependency. There is an expectation that newly formed families will strive for independence and emancipation from their parents. In-laws may be liked but are not welcomed as integral parts of the family. A remarkable amount of moving about is characteristic geographically of these families, and this feature contributes a good share to the isolation from collateral relatives. Children grow up, marry, and set off at once in a psychological sense and often in a geographic sense to separate from parents. Siblings separate also and a family often is much closer in any real sense to neighbors than to brothers and sisters. Only on scheduled holidays as on Thanksgiving, Christmas, or Mother's Day is there real effort to pull together the larger circle of relatives; following these holidays there is usually a rapid return to the smaller groupings with a dropping of close communication until the next holiday.

The number of children in the modern family is small on the average. There are various suggested reasons for this among which are the expenses of larger families, the lack of assistance that children

now bring to family economic activities, and the problem of maintaining close emotional integration in the larger families. Prolonged educational programs, the late entering into productive work of the children, and requirements of family mobility all tend to keep down family size. Many aspects of family life formerly carried out within the family have been taken out of the family and given over to community agencies. Minor infractions of children may be handled by police or courts whereas formerly the family would have expected to manage such situations. Much schooling formerly done at home now is done in the community. Family recreation is less frequent, with institutionalized recreational facilities outside of the family taking over. The family produces little of economic value and is usually in no sense self supporting except through the activities of the husband and father, who earns the living for the whole family in some outside job. In fact, the status of the family is largely determined by the nature of the husband's job. Because of his role in the occupational system outside of the family, the husband is absent physically from the family much of the time, leaving the wife at home to carry out what needs to be done there.

The role of the wife and mother in such a family is characteristically that of maintaining the integration and emotional balance of family members. It is up to her to be effective at patching quarrels, arranging transportation, scheduling meals, cleaning, supporting, expediting, and so forth. She is in effect in an executive role with great amounts of emotional stress added. She must be continually active and has less rest and less possibility of rest than any other member of the family. Furthermore she has less support for herself. It might be said that the role and activity of a wife and mother in the middle class urban family makes great demands on stamina and on the emotions. There is some reason to believe that the working woman outside the home has not changed the picture in any important degree.[3]

There appears to be little room for additional stress on these families; they appear to have been stretched to the near maximum emotionally despite the turning over to other agencies of many former functions of the family. In summary it probably would be correct to state that the remaining function of the modern suburban and urban small nuclear family consists principally of the responsibility for socializing small children and teaching them the values and social techniques required to become a member of society and secondly in the maintenance of emotional equilibrium through supplying certain fundamental experiences gained only through the medium of the family. As noted, there seems to be little room for additional emotional strain in the ordinary family, and it may be that some of the functions formerly carried out in families, such as recreation and some schooling, of necessity have been delegated to community agencies for the purpose of maintaining the family integration.

REACTION TO ILLNESS

Among the functions frequently taken care of within the family circle in previous times were many matters of health and illness that now are turned over to the hospital and clinic. It is customary for us to feel that the use of hospital and clinic facilities has a direct relationship to the fact that complicated instruments of diagnosis and treatment are available in the hospitals and not in the home. It may be that in addition to this reason for the relatively greater use of extra-familial medical care, there is the need to isolate the sick person from the family in view of the family's already closely stretched and tightly drawn arrangements. It may be that there is no room in which to care for illness either in a psychological sense or in the geographic sense. The additional burden of a sick person, particularly of a chronically sick person, in the small streamlined nuclear family may be well nigh intolerable and require that the sick person be removed from the home. It is necessary to consider carefully what it may mean in terms of additional burdens for an older relative to be cared for in a younger family. Some other solution rather than quartering a chronically ill member of a small family may be necessary to prevent breakdown in the small family. In this connection the homes for the aged, rehabilitation homes for prolonged diseases, and the like serve a double purpose in caring for the sick person and preventing the disintegration of a hitherto intact family.

The case of illness striking at a family through the addition of a sick person into a well family is different from the case of the family attacked by the illness of one of its members. It makes a difference which member of a family is attacked in view of the highly differentiated roles that the different family members play. In the case of the father and the husband in the family, for instance, who has chronic disease such as perhaps tuberculosis or mental illness, it may be possible to cushion the shock of loss of earning power with insurance or compensation schemes which will provide a living to the family and to the sick person. This solution will not solve the problem of changed status of the remaining family members because of the loss of the husband and father's occupational status upon which the family so largely depends. Some attention needs to be given towards assisting the wife and the children to face realistically and to accept such change in status. Upon the interpersonal relationships of wife and husband may depend the character of the impact that sickness of the husband may have upon the family. In those cases

where the wife's dependency needs have never been adequately satisfied by her relations with the husband while he is well, his sickness may produce acute anxiety and the need for someone on whom to depend. In the majority of cases, however, it appears that sickness in the case of the husband and the father of the family has less stressful impact upon the family than sickness in the case of the mother and wife of the family, particularly where there are smaller children. This seems to be the case because of the fact that so much emotional support both of the children and the husband is centered in the mother and wife that she is not easily replaced in her role of family integrator by anyone else.

In the case of children the impact of illness upon the family will vary with the number of children and the special relationships of a child to the parent. Inasmuch as the children do not have any key roles which must be fulfilled for preservation of the family, as in the case of the wife and mother of the family, it is possible for the family to continue to exist without any great strain under the impact of the illness of the child even though there may be great stress and much suffering in the family as a result of the illness. Insofar as much emphasis in the culture is laid upon youth and giving the children every advantage, then the impact of disease of a chronic nature in the child of a family produces great unhappiness. The age of the child, the capacity of the parents to have more children, and the presence or absence of other children will make great changes in the extent of impact on the family.

There is a final factor in the case of chronic disease as opposed to acute disease and particularly in those cases in which there is a satisfactory equilibrium reached by an individual who has structural and irreversible changes due to disease but who manages to adapt at a different level and to carry on. It has been pointed out that one of the expectations placed upon an ill person is that he refrain from assuming his present obligations or from assuming any new obligations. After a certain period of time, it may become apparent that no further improvement in capacity can be expected following the invasion by a chronic disease. In such a case it becomes necessary for reorientation in values to occur in the family and in the individual with the disease such that they do not continue to expect the patient to try to get well in the sense of recovering full functions as before the illness. In this latter case in which there is an equilibrium process reached, it is necessary for the patient to alter his conception of himself and to accept himself as a different person with different capacities rather than as a person who is disabled generally by having a disease. There needs to be a restriction of the concept of the disease from the person himself as a whole to whatever bodily system is affected such that the individual can see himself as functioning adequately within certain limitations rather than disabled and limited from full functioning. It is necessary for the family to alter its view in order to accept and to reintegrate on a new basis with a member who is functioning in a different way following an equilibrium reached with chronic disease. While these shifts in viewpoint may appear trivial, they are in reality potent factors in determining whether or not the family and the individual with a chronic illness will regain a satisfactory status.

In the interest of preserving family integration and unity, good extramural facilities for the care of those persons with chronically disabling conditions are necessary. In many cases it is not possible to maintain the family in which it is necessary to care for a chronic illness in the home. Services for the assistance of sick housewives such as Mother's Helpers and part-time Housework Assistants can be of great help during critical periods of family existence when disease has appeared. Careful consideration by the family physician of the apparent needs of the family and the roles that the different members play within the family can make the difference between an intact family under the impact of sickness or a seriously fragmented family. A reasonable amount of time spent with different family members to collect information as to the family's reaction to the illness may repay many times the effort required.

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Hospital Cancer Program Approval

A properly functioning registry of cancer patients is a requirement for approval of a hospital's cancer program by the American College of Surgeons under new regulations which became effective in February. This program is entirely separate from the accreditation of hospitals by the Joint Commission on Accreditation of Hospitals.

Minimum requirements for approval of a cancer program provide for three types of program: (1) specialized cancer hospital providing complete service for cancer patients; (2) general hospital conducting organized cancer clinical activities, including registry, consultation, and treatment of cancer; (3) general hospital maintaining only a registry of cancer patients. A total of 625 hospitals now are on the approved list.

Management of Chronic Arthritis

MOISE D. LEVY, JR., M. D.

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RHEUMATOID arthritis is a chronic disease of unknown etiology which produces varying degrees of inflammatory changes in and about the joints of the body. Its clinical course is characterized by spontaneous exacerbations and remissions which may occur spontaneously at any time during the course of the disease. It is this characteristic which has led to confusion in the minds of many practitioners as to the relative efficacy of various therapeutic schedules in the treatment of rheumatoid arthritis. It has been estimated that 60 to 70 per cent of the patients seen with rheumatoid arthritis will do fairly well with any form of therapy which might be instituted, so long as it is not actually harmful in itself. To improve these figures, it is necessary that the physician understand the natural history of rheumatoid arthritis and have a working knowledge of the pathologic changes which may occur in the disease. In addition, it is absolutely essential that he have firmly in his mind a basic program of management which should be instituted in each patient suffering from this disease, with alterations made as they best fit the individual patient.

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It is of the utmost importance that there be full cooperation and understanding between physician and patient. There is a great tendency for patients with rheumatoid arthritis to be looking for the "magic cure," and as a result of this, they often will shop from physician to physician obtaining no definitive treatment from any and following no specific program while the disease progresses slowly and progressively to produce irreversible changes which might well have been prevented with the proper approach at the onset. Each patient should have the nature of his disease carefully explained. An attitude of cautious optimism is warranted, and the physician must avoid an attitude of defeatism, which is best illustrated by the often repeated statement, "There is nothing to do for this disease. Just go home and take some aspirin and maybe that will help."

TREATMENT

Attention must be given to the nutritional status of the patient. If the patient is overweight, he must be reduced, and if undernutrition is present, this also must be corrected. Many patients with rheumatoid arthritis have an anemia. This may be treated by the usual means of iron, folic acid, vitamin B_{12}, or liver extract; but often in patients with active rheumatoid arthritis, none of these measures will completely correct the anemia. In such instances if the anemia is significant, transfusions must be resorted to.

There must be a careful balance between the level of activity and the amount of rest in each patient. This has to be individualized in each of the patients and is dependent upon the degree of activity of the joint disease and the location of the joints affected. Obviously, if there is serious inflammation of weight-bearing joints, these patients must be at bed rest until the degree of inflammation subsides or is brought under control by other therapeutic measures. Careful attention to posture is important whether the patient be at bed rest, sitting in a chair, or ambulatory.

Physical therapy, properly used, is indispensable in the management of patients with rheumatoid arthritis. Again depending upon the degree of inflammation present in the various joints, first, passive motion may be instituted, gradually progressing to assisted active motion and finally active motion at the various joints. When severe degrees of inflammation are present, it is of value to prescribe muscle-setting exercises to help prevent extreme degrees of muscle atrophy about the joints affected. The primary aim of physical therapy is to preserve joint function and to prevent various deformities. At the risk of oversimplification, it may be stated that a patient can be instructed by his physician to move every joint in his body gently but deliberately, to the extremes which are possible with the production of only a slight amount of pain and then just a small amount further each time. If active exercise produces increased swelling or redness of the joint, or an increased amount of pain which persists for longer than four to six hours, the amount of exercise should be diminished. Special attention should be given to the maintenance of function of the muscles of extension. Far too frequently, patients develop various degrees of flexion deformity because of excessive attention toward movements of flexion.

Drug therapy in rheumatoid arthritis has two pur-

poses: to relieve pain and to attempt to induce a remission of the active rheumatoid process. Salicylates (usually in the form of aspirin, given orally) are the most valuable family of drugs in the management of this disease. A basic schedule of aspirin, 0.6 or 1.0 Gm. every four hours through the day, is of great value. This has a tendency to decrease pain and swelling and will allow the patient to perform his physical therapy with much greater comfort and accomplish a greater improvement in the range of motion than he might achieve without this degree of pain relief.

The use of injections of gold salts is indicated only for the attempted control of active rheumatoid arthritis. It will have no effect on the chronic changes, which are merely the result of previously active disease. Most rheumatologists in the United States feel that gold therapy will assist in producing satisfactory degrees of remission in a high percentage of cases of rheumatoid arthritis. It is generally accepted that this form of therapy is of greater value when instituted early in the course of the disease. The choice of which preparation of gold to use is not of great importance except, in my opinion, that one choose a water soluble gold salt. This may be either in water solution or in oil suspension. Patients receiving gold therapy should be watched carefully for the development of any of the evidences of toxicity of the gold salts used, and the physician should be thoroughly familiar with the potentialities of these preparations. Properly used, the risk is not great and certainly is far less than the risk to the patient of uncontrolled rheumatoid arthritis. The severity of toxic reactions from gold may be reduced considerably by the prompt use of British antilewisite and the proper use of adrenal corticotrophic hormones or adrenal steroids, which tend to decrease the severity of the toxic reactions produced by these drugs.

The final chapter on the problem of steroid therapy in the treatment of rheumatoid arthritis has not yet been written. There are as yet no clear-cut indications for its use in rheumatoid arthritis. One thing is certain, however, and that is that much danger and great disappointment is in store for the patient who does nothing other than take one of the several steroids which are available on the market and omits any other form of care for his arthritis. Rheumatologists are well aware of the fact that the various steroids have their beneficial effect only during the time of administration of the drugs and that there is no evidence that these preparations will influence the ultimate course of the disease or induce a remission of the disease which will persist for any significant period after their discontinuance. It has been clearly demonstrated recently that the progressive joint changes from active rheumatoid arthritis will continue, even though patients are kept on steroids for prolonged periods of time. There is a real danger in that both the physician and the patient may be lulled into a false sense of security while such preparations are being administered. In addition, physicians are learning more of the adverse effects of these drugs, so that it becomes imperative that the potential benefits which might be derived from their use be weighed against the potential hazards to the patient.

It is suggested by most workers now that a minimum "satisfactory" dose of steroids be utilized. This is best stated as using the smallest dose which will allow the greatest benefit to the patient, but not a complete remission. With the newest steroids now available, it is suggested that an arbitrary maximum of 15 to 20 mg. a day be used, with every attempt being made to reduce this maximum daily dose to 10 to 15 mg. per day, or less. This dose may be reduced progressively over fairly prolonged periods, as the evidences of activity of the disease decrease. It has been suggested that steroids be utilized along with gold, the steroids giving a more immediate benefit, whereas the benefits of gold are usually delayed in onset for three to four months. Extreme care must be observed, however, and the dose of steroids kept as low as possible, since they will have a tendency to mask early or mild evidences of toxicity from the gold salt preparations being used.

Recently, several new preparations have been placed on the market and made available to practitioners generally. These contain primarily salicylates in combination with very small doses of one of the newer, more active steroids. A report on the use of these preparations has been published[1] recently. In the Arthritis Clinic at the Jefferson Davis Hospital, Houston, we have had experience with one of these preparations for the past six to eight weeks. Each patient with rheumatoid arthritis who received this particular preparation* in doses of two tablets four times daily has experienced a distinct and apparently satisfactory degree of subjective improvement. We have not at any time seen any significant objective change such as decreased swelling, decreased fluid, or a significant decrease in the tenderness of affected joints. The benefits so far might be described best as what one would expect under the most optimum circumstance when using aspirin alone, although it is our preliminary impression that this benefit occurs much more frequently and in more patients than one would expect when using the salicylate by itself. Many more patients will have to be studied for a longer period of time before final evaluation of this type of preparation can be made. Investigations using aspirin alone as a control and the "double blind" method of recording results will be of great help in resolving such a study of therapeutic efficiency.

**Cordex, supplied by the Upjohn Company.*

Orthopedic procedures, varying from resting splints, braces, and traction to various surgical techniques may be required to mobilize joints severely damaged by rheumatoid arthritis. It should be reemphasized that the major aim in caring for these patients should be the prevention of deformity during the active phase of the disease.

SUMMARY

The proper management of rheumatoid arthritis is dependent upon the fullest cooperation and understanding between physician and patient. Each patient presents an individual challenge and therapy must be altered to meet the changing needs of the disease from time to time.

A basic schedule of physical therapy and good hygiene is essential in all patients. Obesity or undernutrition must be corrected; anemia must be corrected by use of iron, folic acid, vitamin B_{12}, or blood transfusion if such proves necessary. Physical therapy is used to relieve pain, maintain joint function, and prevent deformity. The procedures are simple and for the most part require that the physician only demonstrate what is desired and check the patient frequently to be sure they are performed properly.

Aspirin or other salicylates are the most valuable drugs in managing this disease. Water soluble gold salts, either in water solution or oil suspension, may aid in inducing a remission of the active process of rheumatoid arthritis. Steroid therapy will bring about a degree of remission, depending on the dose and to a lesser degree on the severity of the disease in a given patient. It must be remembered that these preparations exert their benefit only while they are administered and that there is no evidence that they influence the ultimate course of the disease or aid in the production of a remission of the disease which will persist for any significant period when their use is discontinued.

The physician must exhibit an attitude of cautious optimism rather than the too often expressed extreme pessimism. Good results may be anticipated in at least 75 to 80 per cent of the patients with rheumatoid arthritis.

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Surgical Treatment Of Dissecting Aneurysm of the Aorta

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ALTHOUGH the clinical and pathologic features of dissecting aneurysm of the aorta have been recognized for many years, until recently the condition was regarded as a pathologic curiosity because the diagnosis was rarely made prior to death. Now, however, a better understanding of the clinical manifestations and the use of special roentgenographic techniques have made possible the correct antemortem diagnosis in from one-third to one-half the cases.[1, 4, 8] Thus the condition has assumed increasing clinical importance.

DR. OSCAR CREECH, JR., *and his co-authors offer this study from the Cora and Webb Mading Department of Surgery, Baylor University College of Medicine, and the Surgical Services of the Jefferson Davis, Methodist, and Veterans Administration Hospital.* *It was supported in part by the Houston Heart Association.*

INCIDENCE

Dissecting aneurysm is not a common disease, its reported autopsy incidence varying from 0.1 to about 1 per cent.[1, 3, 8] A careful study of coroners' records, however, suggests that the actual incidence of the disease may be considerably higher than that generally reported.[9] About 75 per cent of cases occur in persons past the age of 40 with the highest incidence occurring in the fifth to the seventh decades. The condition is about twice as common in males as in females.

PATHOLOGY AND PATHOGENESIS

Morphologically, the term aneurysm may be incorrectly applied to this condition since true aneurysmal dilatation of the aorta is not a constant feature, particularly if dissection begins in the ascending aorta. Indeed, it is often difficult to establish the diagnosis at operation or necropsy from gross examination of the intact aorta. On the other hand, when dissection begins at the left subclavian artery, aneurysm formation is the rule.

Although the etiology of dissecting aneurysm is not clear, certain pathologic features are characteristic of the disease and provide a clue to its pathogenesis. The underlying lesion appears to be degeneration of the elements of the media which may be either localized or diffuse.[10, 12] This degenerative process usually assumes the form of cystic necrosis and in most instances is apparently unrelated to atherosclerosis, syphilis, or the more common disease of the aorta. The mechanism of development of the initial rupture or tear in the intima and media is not well understood, but certain mechanical factors are considered to be important. These are (1) conversion of the longitudinal force during diastole into a transverse force with lateral stretching and distention of the aorta, (2) fixation of the ends of the aortic arch by the pulmonary artery and bronchi, (3) sudden increase in blood pressure from trauma or other causes. Pregnancy seems to have some relationship to the development of dissecting aneurysm, for about 50 per cent of the cases in women occur during pregnancy. The condition also has a higher incidence in patients with arachnodactyly.

Dissection usually begins as a transverse tear in the intima and the inner layers of the media a short distance above the aortic valves (fig. 1) or in the descending thoracic aorta near the origin of the left subclavian artery or the ductus botalli. A forceful stream of blood entering this tear produces dissection usually at the junction of the middle and outer thirds of the media and progresses distally involving a portion or all of the circumference of the aorta. Branches may be sheared off as they are encountered, or the dissecting process may extend along them for varying distances, diminishing or completely interrupting the blood supply to these areas. The extent and course of the dissecting process is extremely variable. In the acute and most severe form there is rapid dissection and terminal perforation through the adventitia into the pericardium, mediastinum, and pleural or peritoneal cavities with death resulting in a few hours or days. In the subacute type the dissecting process may begin abruptly then progress slowly over a period of days or weeks before terminal rupture and death occur. The chronic form is characterized by reentry of the dissected passage into the true lumen of the aorta to form a "double barrelled" aorta. Following this occurrence the false passage may become covered with endothelium or may even be obliterated by thrombus formation and subsequent organization. The process of reentry of the dissected passage into the aortic lumen has been described as "healing" of the dissecting aneurysm since only in this type of a disease does survival occur for a significant period of time.

Fig. 1. Specimen removed at necropsy from a patient dying of dissecting aneurysm of the aorta. The initial intimal tear is indicated by arrow. The double lumen extends the length of the aorta and into the common iliac arteries.

CLINICAL MANIFESTATIONS

The clinical manifestations of dissecting aneurysm are sufficiently characteristic to suggest the diagnosis

in most instances. The condition generally develops in patients with a history of hypertension. The onset is sudden and characterized by agonizing pain in the chest or epigastrium which almost invariably will be described as the most severe pain imaginable and one which is only partially relieved by opiates. The pain radiates along the course of the ribs, to the back, or down into the abdomen. Although in some instances the onset is characterized by loss of consciousness, shock with a significant lowering of the blood pressure is not an essential feature of the syndrome. As a result of interference with the blood supply to the central nervous system or to the extremities, a variety of cerebral and peripheral symptoms may develop. Under these circumstances the symptoms may be confusing unless dissecting aneurysm is suspected. Interference with peripheral blood flow in the extremities is commonly encountered. In the upper extremities this may take the form of a diminution or absence of the radial pulse with corresponding changes in the blood pressure of one upper extremity. In the lower extremities the sudden appearance of ischemic changes may suggest an acute arterial embolus or thrombosis.

An aortic diastolic murmur is present in from one-fourth to one-half the cases. This is of particular diagnostic significance when the murmur is known not to have been present prior to the onset of symptoms. Although a number of factors have been suggested, the mechanism for the development of this murmur is not clear. Some type of electrocardiographic abnormality can be demonstrated in almost every case.[8] A pattern indicative of left ventricular strain is most commonly present. Often the electrocardiographic pattern may suggest myocardial infarction initially, but subsequent tracings usually tend to differentiate the two.

ROENTGENOGRAPHIC FINDINGS

Roentgenographic examination may be essential to establish the diagnosis of dissecting aneurysm.[14] The most common finding is widening of the supracardiac shadow with involvement of a portion or all of the thoracic aorta (fig. 2a). Roentgenograms made prior to the onset of symptoms are valuable for evaluating the extent of increase in size of the aorta. When there has been extravasation of blood into the mediastinum, the aortic shadow may be accentuated. Widening of the shadow produced by the innominate, left carotid, and left subclavian arteries may be indicative of a dissecting process. When a hematoma forms within the wall of the aorta, a marked thickening of the wall is produced which is visible on the roentgenogram. Under these circumstances the false passage appears more radiolucent than the true lumen of the aorta. At times intimal calcification along the endothelial surface of the false passage will give a "double-barrelled" appearance to the aorta.

Angiocardiography is one of the most accurate

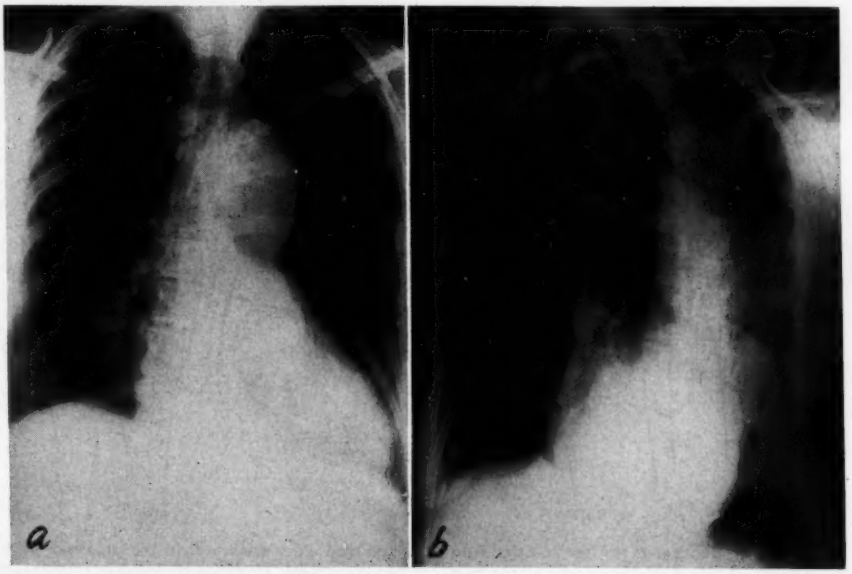

Fig. 2. Postero-anterior roentgenogram of the chest **(a)** showing widening of the supracardiac shadow due to a dissecting aneurysm. The walls of the lobulated aneurysm are outlined by flecks of calcium. The left anterior oblique projection **(b)** shows the aneurysm arising in the distal part of the arch and extending to the lower third of the descending aorta.

methods of diagnosing dissecting aneurysm of the aorta.[5, 2] In the left anterior or right posterior oblique projections the ascending, transverse, and descending portions of the thoracic aorta are well outlined. Characteristically in this type of roentgenogram the dye is heavily concentrated in the true aortic lumen while the false passage appears as a lateral or medial, somewhat superimposed, less dense channel (fig. 2b). Occasionally the postero-anterior or lateral projections may be necessary to demonstrate the dissecting aneurysm.

DIAGNOSIS

The diagnosis of dissecting aneurysm should be suspected in any patient with hypertension and a history of sudden, excruciating pain in the chest, back, or epigastrium. If there are associated central nervous system or peripheral arterial symptoms, the diagnosis may be made with reasonable certainty. An electrocardiographic tracing which is not suggestive of myocardial infarction is confirmatory evidence. The appearance of an aortic diastolic murmur and widening of the supracardiac shadow on the roentgenogram are additional diagnostic features. Finally, the demonstration of a false passage in the aorta by angiocardiography makes the diagnosis of dissecting aneurysm a certainty. Whenever the clinical manifestations are less clear-cut, the diagnosis must be arrived at by exclusion. In these instances angiocardiography is particularly helpful.

PROGNOSIS

Dissecting aneurysm of the aorta is rapidly fatal in about 90 per cent of the cases.[13] As indicated earlier, with the acute type of dissection death may come within hours after the onset of symptoms, whereas in those with the subacute type survival may vary from one to several weeks. Only in patients with the chronic or healed type of dissecting aneurysm is there a chance of significant survival, and even in this group further dissection with fatal consequences may take place at any time.

TREATMENT

Until recently the treatment of dissecting aneurysm of the aorta has been largely symptomatic and unsatisfactory. Relatively few attempts have been made to treat this condition by surgical means, and all have proved unsuccessful. Probably the first report of surgical attack upon this problem was that of Gurin, Bulmer, and Derby[6] in 1935. In this instance an attempt was made to relieve the acute arterial insufficiency of the right lower extremity of a patient with an acute dissecting aneurysm of the aorta. The right external iliac artery was exposed and found to be involved in a dissecting aneurysm. There was no

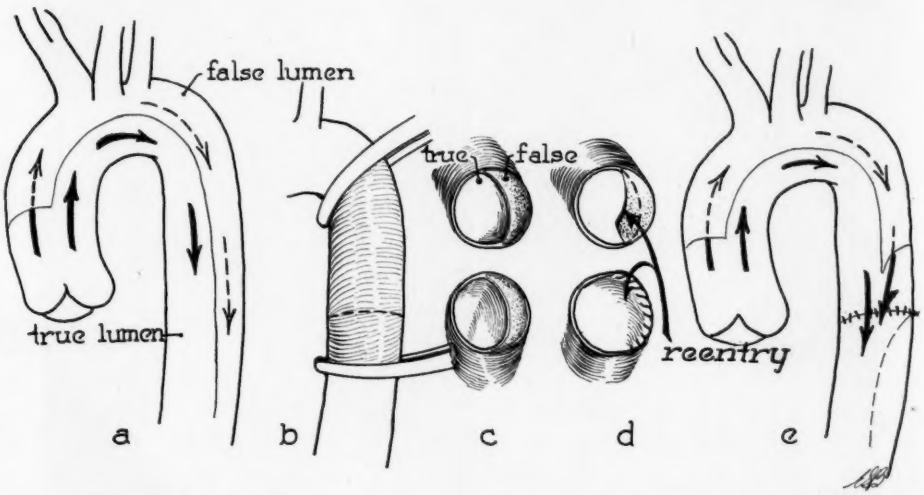

Fig. 3. The technique of creating a reentry passage into the true aortic lumen is shown diagrammatically. In **a** the relationship of the true and false lumina is shown. Clamps are applied to the descending aorta in **b** and the aorta is divided. The false passage in proximal and distal segments is shown in **c**. In **d** a wedge is removed from the dissected inner wall in the proximal segment and the false passage is closed in the distal segment. End-to-end anastomosis restores continuity of the aorta in **e** and establishes reentry into the true lumen for the dissected false passage.

expansile pulsation in any part of the vessel. Gurin and his associates applied occluding clamps to the artery, and a longitudinal incision was made in the unaffected anterior wall. The true lumen of the artery was found narrowed by the dissecting aneurysm and completely occluded by an atheromatous mass. The intima and the media opposite the arteriotomy were incised, thus creating an opening into the false lumen of the dissecting aneurysm. Following closure of the incision in the anterior wall of the artery and removal of the occluding clamps, pulsations were restored to the extremity, but the patient died on the sixth postoperative day of renal failure. A second attempt at surgical treatment of dissecting aneurysm was reported by Johns[7] in 1953. In this case a perforated dissecting aneurysm of the abdominal aorta was repaired by suture closure, but the patient also succumbed from renal insufficiency on the eighth postoperative day. More recently Shaw[11] has reported the application of a surgical procedure somewhat similar to that employed by Gurin, Bulmer, and Derby. The procedure consisted essentially in making a longitudinal incision into the aneurysm in the lower abdominal aorta, extracting a soft clot from its lumen permitting free bleeding from above, and then making a small window into the true aortic lumen by excising a portion of the internal aneurysmal wall. Although pulses were restored in the femoral arteries, the patient died on the ninth postoperative day.

Our experience with the surgical treatment of dissecting aneurysm of the aorta is based upon 13 cases. As indicated in a previous report,[2] surgical therapy has been aimed at the prevention of further intramural dissection and terminal rupture and the restoration of blood flow through the normal lumen. The type of surgical procedure employed will vary depending upon the location of the initial intimal tear and the extent of the dissecting process. For example, when dissection begins in the ascending part of the aortic arch and extends into the descending thoracic aorta, the most logical procedure is to create a reentry passage into the aortic lumen above with obliteration of the false passage below.[2] Thus nature's method of healing is utilized in which spontaneous reentry of the dissected passage at some distal point in the aorta restores peripheral circulation and relieves the increasing tension upon the outer wall preventing its rupture. This can be accomplished surgically by cross clamping the thoracic aorta distal to the left subclavian artery, dividing it completely, obliterating the false passage below by approximating the outer and inner layers, excising a small segment from the dissected inner wall above to produce a reentry passage, and finally completing the procedure by an end-to-end anastomosis (fig. 3). Following this maneuver blood flow from the double aortic lumen above is diverted into a single, normal lumen below. When the dissecting process has extended into the terminal portions of the aorta and the iliac vessels, it may be desirable to repeat this procedure in the abdominal aorta just above the bifurcation in order to empty the false passage below and remove the compressive ef-

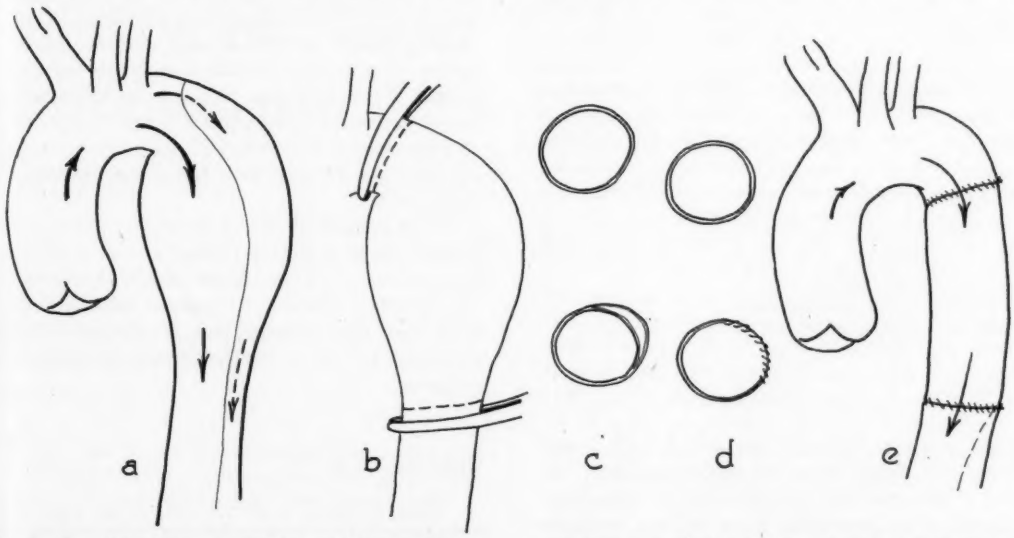

Fig. 4. The technique of excision and homograft replacement of a dissecting aneurysm of the descending aorta is shown diagrammatically. The origin of the dissecting process just distal to the left subclavian artery is shown in **a**. Occluding clamps are applied and the aneurysm is excised in **b**. The single lumen in the proximal segment and the double lumen in the distal segment are shown in **c**. In **d** the false passage has been obliterated in the distal segment. In **e** continuity is restored by insertion of an aortic homograft.

fect on the normal aortic lumen. It is important that reentry of the false passage into the normal lumen be accomplished as close to the point of origin of the dissecting process as possible, for by shortening the length of the false passage peripheral resistance to blood flow is reduced and the likelihood of rupture of the weakened outer wall is diminished. In addition the compressive effects of the false passage upon the origin of the major vascular channels of the abdominal aorta are relieved.

When the dissecting process begins at or distal to the left subclavian artery, excisional therapy should be employed.[2] Since, in these cases, the dissecting process is frequently associated with a true aneurysmal dilatation of the descending thoracic aorta, excisional therapy not only removes the origin of the false passage but also removes the dilated aortic segment as well. Under these circumstances the surgical procedure consists of applying occluding clamps above and below the involved portion of aorta with excision of the intervening segment (fig. 4). Distally a single lumen is created by reapproximating the inner and outer walls of the aorta. This is then followed either by end-to-end anastomosis or by insertion of an aortic homograft.

When the dissection has been unusually limited and well localized, it may be possible to excise it completely and repair the defect by aortorrhaphy.[2] This type of procedure usually will be applicable only to the more acute types of dissecting aneurysm.

RESULTS

These surgical procedures have been employed in the treatment of 13 cases of dissecting aneurysm (table 1). In 4 the dissecting process began in the ascending aorta while in 9 the initial intimal tear occurred just distal to the left subclavian artery. In all but 2 cases the false passage extended throughout the length of the descending aorta, and in 3 instances it was known to extend beyond the aortic bifurcation. The procedure of creating a reentry into the true aortic lumen was employed in 4 cases, and excision with lateral aortorrhaphy, end-to-end anastomosis, or insertion of a homograft in 9. There were 10 patients who survived operation, and follow-up observations extending up to one and one-half years reveal that they have remained well and free of symptoms. In view of the availability of these corrective surgical procedures, the antemortem diagnosis of dissecting aneurysm of the aorta becomes a matter of great urgency. Careful evaluation of the clinical manifestations and the use of angiocardiography should make possible the correct diagnosis in a majority of cases.

TABLE 1.—*Results of Treatment in 13 Cases of Dissecting Aneurysm of the Aorta.*

Type Procedure	No. Cases	Survivors
Creation of reentry passage	4	2
Excision with end-to-end anastomosis, homograft replacement, or aortorrhaphy	9	8
Total	13	10

SUMMARY

Dissecting aneurysm of the aorta has become clinically important in recent years because of the frequency with which it is diagnosed antemortem. Characteristically dissection of the aortic wall begins just above the aortic valve or just beyond the left subclavian artery and involves a portion or all of the circumference of the aorta.

Clinical manifestations and roentgenographic findings are sufficiently characteristic to make the diagnosis possible in more than half the cases. Angiocardiography is particularly helpful in confirming the diagnosis.

Only about 10 per cent of patients with dissecting aneurysm of the aorta survive for a significant period of time, the majority dying within hours or days following onset of symptoms.

Surgical therapy is directed toward preventing further dissection and rupture and the restoration of normal blood flow. When dissection begins in the ascending aorta, a reentry passage into the true aortic lumen is created with obliteration of the false lumen below. When dissection begins at the left subclavian artery, excisional therapy with homograft replacement may be employed. Rarely with the more acute forms of dissection, excision with lateral aortorrhaphy may be utilized.

Of 13 cases of dissecting aneurysm, 4 were treated by creation of a reentry passage and in 9 excisional therapy was employed. There were 3 deaths following operation. In the 10 patients surviving symptoms have been relieved and the threat of further dissection has been greatly reduced as a result of operation.

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Management of Some Problems in The Use of Newer Cardiovascular Drugs

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THE pharmaceutical industry dispenses about 150,000 different preparations put up as single drugs or drug combinations. Fortunately, there are but 100 to 150 important drugs which the physician uses regularly in his practice, and only a small number of these are used over long periods of time for the treatment of chronic cardiovascular diseases. When using these compounds, the therapist should be acquainted with the best method of administration and the possible untoward reactions that might be encountered. It is with these reactions that we are particularly concerned in the current communication.

Untoward reactions can be considered as (1) toxic effects, (2) allergic responses, and (3) side effects. These side effects may be undesirable in one instance, but may be a desired response in another. For example, the use of an antihistaminic drug which produces somnolence may be an undesirable side effect when used by the internist for the treatment of hay fever, but the drug may be used by the pediatrician for its somnolent effect in the treatment of a child who requires sedation. Under the latter circumstance, the side effect has become a desirable property of the drug.

DR. JOHN H. MOYER, *professor of pharmacology at Baylor University College of Medicine, and his co-authors presented this paper as part of a symposium at the Texarkana Post Graduate Assembly, University of Texas Post Graduate School of Medicine, Texarkana, March 18, 1956.*

Undesirable side effects of the newer cardiovascular drugs can become a serious problem, but they are usually predictable. The incidence of their occurrence can be reduced, or frequently prevented, if the drugs are handled skillfully. It is this problem that we will consider in some detail.

When potent therapeutic agents are used, a few important generalizations are applicable: (1) A drug should be used only when indicated, and then it should be used in adequate amounts. Otherwise, the patient is exposed to potential untoward reactions without benefit of therapeutic value. (2) Especially in the field of cardiovascular diseases, the dose of each drug should be titrated and the dose thus individualized for each patient. In other words, the dose of the drug has to be adapted to the requirements of the patient. There is a wide range of effective dosages from patient to patient, and there is no such thing as an average dose. When the dose titration technique is applied, the patient is first given a small dose and then the dose is gradually increased until either the desired effect is obtained or undesirable side effects ensue. If the latter occurs first, then the drug must be discontinued. This aspect of drug administration will be emphasized throughout this paper.

DIURETICS

Neohydrin.—Several effective diuretics have been developed within the last five years. One of the most

effective of these is chlormerodin (Neohydrin), a mercurial diuretic which is effective orally. To obtain maximum benefit from the use of this agent it is necessary that an adequate amount be given, an obvious but frequently overlooked fact. When it is used in adequate amounts, about 25 per cent of the patients complain of gastrointestinal symptoms, and, in fact, the drug must be discontinued in about 10 per cent of those patients who take it. An occasional patient develops dermatitis. Stomatitis is also seen, particularly in patients with poor oral hygiene. It immediately becomes obvious that the drug should not be used unless therapy is indicated, and then it should be used in effective amounts since the incidence of side effects is nearly the same whether adequate or inadequate therapeutic doses are used.

When should Neohydrin be used? This compound is about four times as potent as Mercuhydrin and is effective orally when given in adequate amounts. It is much more potent in the treatment of heart failure than acetozoleamide (Diamox). Therefore, this drug is indicated primarily for the treatment of moderately severe to severe congestive heart failure. Even though side effects may be anticipated in a certain number of patients, Neohydrin cannot be replaced by Diamox in the treatment of patients with moderately severe to severe heart failure.

The importance of establishing an adequate dose is presented in table 1. When a dose of 2 tablets a day was administered, the drug was not any more effective than placebo. However, when the dose was increased to 4 tablets a day, the drug was about three times as effective as placebo; and when the dose was increased to 8 tablets a day, the drug controlled 91 per cent of the patients who had heart failure as compared to 16 per cent when these patients received placebo. This emphasizes the importance of using an adequate dose if the drug is to be employed.

If there is any doubt as to the effectiveness of Neohydrin as a diuretic, one can refer to figures 1 and 2, which show the weight loss following the administration of an adequate dose of this agent by the oral route.

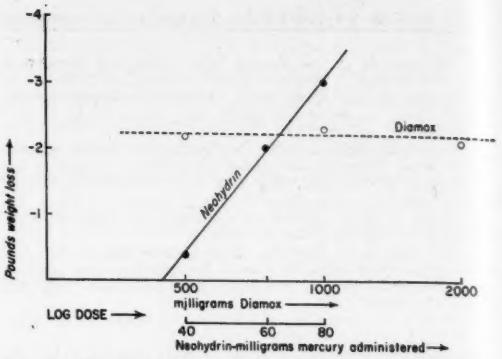

Fig. 1. Curve showing dosage response to Diamox as compared to Neohydrin. As the dose of Neohydrin is increased above 4 tablets a day, the diuretic response increases progressively. By contrast, Diamox produces no greater diuresis at 2,000 mg. a day than at 250 mg. a day. [After Moyer, J. H.; McConn, R. G.; Seibert, R. A.; Dennis, E. W.; and Hughes, W.: Comparative Study of Mersoben, Mercuhydrin (Parenteral Diuretics), Neohydrin and Diamox (Oral Diuretics), J. Chronic Dis. 2:670-677 (Dec.) 1955.]

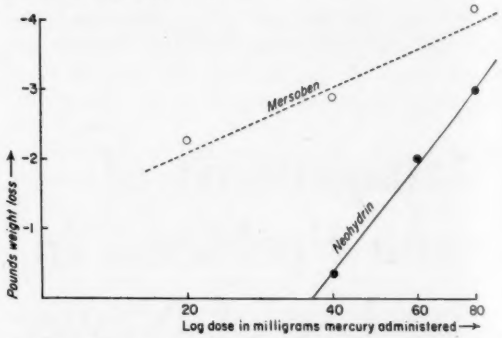

Fig. 2. Comparison of Mersoben given parenterally and Neohydrin given orally. As the threshold dose is exceeded, there is a rapid increase in diuretic potency which at a dose of 80 mg. of mercury a day Neohydrin given orally approximates the response to Mersoben given parenterally. [After Moyer, J. H., McConn, R. G.; Seibert, R. A.; Dennis, E. W.; and Hughes, W.: Comparative Study of Mersoben, Mercuhydrin (Parenteral Diuretics), Neohydrin and Diamox (Oral Diuretics), J. Chronic Dis. 2:670-677 (Dec.) 1955.]

TABLE 1.—*Comparison of Neohydrin with Simple Placebo Substitution and Double Blind Technique When Used for the Treatment of Patients with Heart Failure.*

	Dose of Placebo and Neohydrin* (tablets per day)					
	2 tablets		4 tablets		8 tablets	
No. patients treated	68		64		69	
	No. of Patients in Whom Heart Failure Controlled					
	No.	%	No.	%	No.	%
Controlled with placebo	14	21	14	22	11	16
Controlled with Neohydrin	17	25	48	75	63	91
Double blind technique						
Placebo	16	24	16	25	15	22
Neohydrin	16	24	46	72	60	87

*Each tablet of Neohydrin contained drug equivalent to 10 mg. of mercury.

Diamox.—By contrast to Neohydrin, Diamox rarely produces gastrointestinal symptoms. However, side reactions to this drug can be just as serious as those observed after Neohydrin administration if given under the wrong circumstances. For example, in the patient with renal failure and associated heart failure, the administration of Diamox may be disastrous since it produces its effect by creating a temporary acidosis. Diamox not only inhibits carbonic anhydrase in the

kidney but also inhibits this enzyme in the lungs and elsewhere in the body. Therefore, if a patient already has acidosis due to renal failure, the administration of Diamox may produce an irreversible acidosis. Furthermore, this drug has only a temporary diuretic effect and can be usel for only three or four days at a time. In addition, there is a maximal diuretic effect that can be obtained from this agent. It is obvious that in the patient with severe heart failure, this drug is contraindicated since a more potent diuretic is necessary.

DRUGS FOR HYPERTENSION

Again, before considering the side effects of any group of drugs, we must discuss the indications. In table 2 is presented our approach to the treatment of hypertension. Therefore, we must consider these general groups of drugs: the rauwolfia compounds, hydralazine, and the various ganglionic blocking agents.

Rauwolfia.—First, let us review the side effects associated with rauwolfia compounds (table 3). The most frequent of these is nasal congestion. Though this is nearly as common after long periods of therapy as in the early stages, most patients report that it becomes less severe with prolonged administration. Weight gain is seen in approximately one-half of the patients. This seems to be directly related to an increase in appetite. Previous studies have shown that there is no alteration in thyroid function. Most of the patients note some increase in the frequency of bowel movements, but in most cases this is temporary and not sufficiently severe to be called diarrhea. Mild dizziness occurs in 10 to 20 per cent of patients during the first month of therapy. This is not postural and is not necessarily related to a fall in blood pressure. Excessive sedation, weakness, and fatigue are seen with some regularity, but these complaints all tend to decrease as therapy is con-

TABLE 2.—*Suggested Therapeutic Approach to the Treatment (Out-Patient) of Hypertension.*

Severity of Hypertension	Therapy
Mild (diastolic pressure 100 to 130 mm. Hg.)	
Labile	Rauwolfia*
Fixed diastolic	Rauwolfia* alone or plus hydralazine† or ganglionic blocking agents‡
Severe (diastolic > 130 mm. Hg.)	Rauwolfia plus ganglionic blocking agents‡ or phenoxybenzamine (Dibenzyline)§
Hypertensive emergency	Parenteral reserpine. Add parenteral hydralazine or veratrum if response to reserpine is inadequate

*Daily dose of 4 mg. of alseroxylon, 300 mg. of whole root, or 1 mg. of reserpine.

†Start with 25 mg. after each meal and at bedtime and gradually increase to a maximum of 600 mg. or until blood pressure controlled.

‡Start on small doses of ganglionic blocking agent such as 125 mg. of hexamethonium after each meal and at bedtime, 40 mg. of pentolinium (Ansolysen) after each meal and at bedtime, or 2.5 mg. of mecamylamine (Inversine) after breakfast and supper. Increase progressively until blood pressure is adequately reduced in the upright position.

§Start with 5 mg. after breakfast and supper and progressively titrate the dose in 5 mg. increments.

TABLE 3.—*Summary of Pharmacodynamic Responses (Beneficial and Untoward) to Different Extracts of Rauwolfia.*

	Roxinil		Alseroxylon		Rauwolfia (Whole Root)		Reserpine		Rescinnamine	
	No.	%*	No.	%*	No.	%*	No.	%*	No.	%*
Total number treated	40	100	118	100	42	100	62	100	84	100
Response										
Beneficial										
Blood pressure reduction		65		51		55		53		48
Bradycrotic response		70		65		74		71		55
Sedation		50		53		57		47		35
Sense of well being		40		57		50		35		27
Untoward										
Nasal congestion		55		72		74		65		51
Diarrhea		13		6		7		5		7
Increased appetite		60		61		62		60		33
Weight gain		48		62		52		50		40
Fatigue and weakness		40		11		24		44		15
Dizziness		30		7		10		21		5
Nightmares		10		6		7		6		4
Dysuria		3		2		2		2		.....
Impotence		5		1		2		3		.....
Syncope		.....		.....		.....		2		1
Muscular aches		8		1		5		10		.....

*Patients presenting side effect expressed as percentage of total number of patients treated with this particular drug.

tinued. Although tolerance to the side effects develops, tolerance to the antihypertensive effects of rauwolfia preparations does not seem to be a clinical problem. It is true, however, that the maximum hypotensive effect is often seen relatively early in the course of therapy, and the blood pressure ultimately stabilizes at a point slightly above this nadir.

When the several rauwolfia preparations which are currently available are compared, it is apparent that their actions are all qualitatively similar (table 3). The hypotensive effect is comparable in degree when optimal doses are used whether the preparation contains multiple alkaloids or a single alkaloid. All the preparations also seem to produce similar side effects, and the incidence of the side effects is not strikingly different with the various preparations. However, the severity of these side effects does differ. Reserpine produces more weakness, fatigue, and sedation than either Rescinnamine or extracts containing multiple alkaloids. Reserpine produces mental depression in a number of cases, and this is less frequently observed with Rescinnamine and alseroxylon or the crude root.

Although fixed doses of the various preparations are used for initiating therapy, when the individual patient is treated, the maintenance dose should be individualized. In determining the maintenance dose, the therapist should establish the minimum dose which will control the blood pressure equally as well as the larger doses used for initiation of therapy. Although we have not been able to establish a relationship between dose and the incidence and severity of side effects, it seems logical that such exists, at least to some degree. In establishing the minimal effective dose, changes in the dose must be made slowly over weeks to months because of the slow onset of action and relatively long cardiovascular response (days and weeks) to the drug.

Probably the most serious side effect to the rauwolfia compounds is the agitated depression that is occasionally observed. A typical case follows:

CASE 1.—A white woman aged 63 had moderately severe hypertension without renal damage. Her pretreatment diastolic blood pressure was 130 mm. of mercury. She was initially given alseroxylon and was subsequently switched to 2.0 mg. of reserpine per day. Because of somnolence the dose was reduced to 0.5 mg. and was never subsequently increased above this level. Pentolinium tartrate in doses of 20 mg. was given in addition to the reserpine each morning and evening. On this regimen her blood pressure was maintained constantly between 150 and 180 systolic and 90 to 105 diastolic for a period of four months. Suddenly she was unable to sleep at night, and her reactions as described in her own words follow:

> In 1953 my doctor discovered I had high blood pressure for which I took some brown tablets [alseroxylon] three times a day. The very first medicine helped me. I hardly ever had to take anything for sleeping. After taking the medicine for quite some time my doctor had me go to the hospital for a few days for a general check-up and found my health generally good. At this time the brown tablets [alseroxylon] were discontinued and I started to take some white tablets [reserpine].
>
> I did quite well after discharge from the hospital for about four months. Then suddenly I became very nervous and upset. I was unable to sleep at night. I worried about my Sunday school and my family. I worried about the dissatisfaction of others as much as myself and became obsessed with this problem. I did not eat or sleep well, and unknowingly it brought on nervousness. I went to my doctor because I was so nervous. I worried if my doctor would be "mad" at me for being so nervous, if I would ever get well, if I had enough faith, even if I was eating the right food. I was so tense and rigid from loss of sleep and not eating that my stomach would roll. My doctor finally sent me to the hospital with instructions for no visitors, even only short visits from my husband. There I finally slept and was able to eat more and relaxed so I got rid of my nervous stomach. I read three of Vincent Peale's books, "Art of Real Living," "Guide to Confident Living," "Power of Positive Thinking." I then read a book by Dale Carnegie, "How to Stop Worrying and Start Living," which didn't seem to help me. I worried about having to take sleeping pills. After seeing my doctor the last time and being told to write down all my worries and all about my present problems, I was upset and did not sleep the first night. I then tried taking walks and deep breathing exercises in an effort to improve my appetite. I hope with this information, with the medicines, by my doctor's good services, the help of God, my prayers, and good thinking I trust that I will be able to relax and stop worrying and start living again so I can enjoy life again.

Reserpine was discontinued when this patient was admitted to the hospital. After two weeks, her symptoms improved enough so that she could be discharged. The patient was then given methylphenyl (2-piperidyl) acetate-hydrochloride (Ritalin), and after 48 hours she was completely free of symptoms. Ritalin was discontinued after one week, and the patient has now been symptom free for three months. She sleeps well without the aid of sedatives, whereas during the height of the reaction to reserpine she required as much as 40 mg. of pentobarbital to induce sleep.

The symptoms of acute anxiety in the previous case undoubtedly were due to reserpine. It is presented in detail because the manifestations can be insidious and may so closely resemble the anxiety manifestations frequently associated with hypertension that the physician may not recognize them as part of an unfavorable reaction to the drug. Nevertheless, they can be sufficiently serious that suicide is a distinct possibility. We have observed 1 patient who attempted suicide, although there had been no previous suggestion of such a reaction. She has not made similar attempts since discontinuing the drug and her period of follow-up is now in excess of one year.

Hydralazine.—In table 4 are listed some of the main side effects associated with hydralazine (Apresoline) administration. The most bothersome side effects following administration of hydralazine (Apresoline) alone are tachycardia (fig. 3) and headache,

which are due to a direct stimulant effect of hydralazine on the heart. This is associated with an increase

TABLE 4.—*Comparison of Side Effects of Hydralazine (Apresoline) When Given Alone and Combined with Rauwolfia (Expressed in Percentage).*

Side Effect	Hydralazine Alone	Hydralazine plus Rauwolfia
Tachycardia	52	10
Headaches	67	17
Dyspnea	12	2
Nausea and vomiting	16	6
Nervousness	22	4

in cardiac output (fig. 3). One can easily visualize how this drug would be contraindicated in coronary artery disease. Therefore, hydralazine should never be used in patients with angina pectoris or other evidence of coronary artery disease unless it is administered with one of the rauwolfia compounds which reduces the direct cardiac effect of this agent (table 4). In table 4 is also recorded the incidence of side effects when hydralazine is given in combination with rauwolfia. The intensity and frequency of the side effects is much less than when hydralazine is given alone. In our estimation, hydralazine never should be given by itself but always should be given in combination with one of the rauwolfia compounds. The dose of hydralazine should be arrived at by the titration technique starting with an initial dose of 25 mg. four times a day and gradually increasing it over a four weeks' period to a maximum of 600 mg. a day.

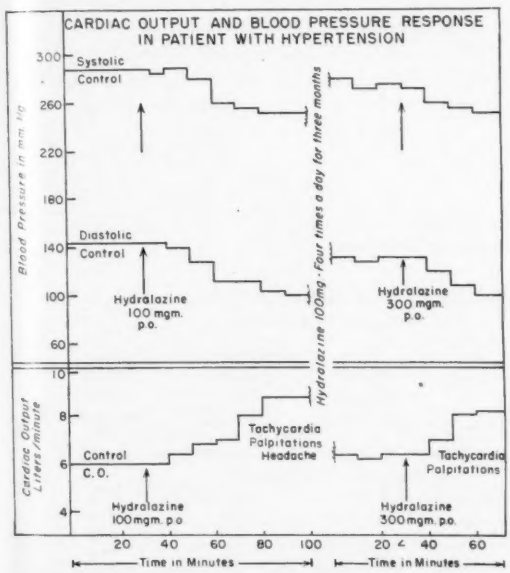

Fig. 3. Effect of hydralazine (Apresoline) on cardiac output. As the blood pressure decreases, there is a sharp cardiac stimulant effect which results in increased cardiac output associated with palpitations and tachycardia. [After Moyer, J. H.: Hydralazine (Apresoline) Hydrochloride; Pharmacological Observations and Clinical Results in Therapy of Hypertension, A.M.A. Arch. Int. Med. 91:419-439 (April) 1953.]

Ganglionic Blocking Agents.—There is little difference between the side effects due to the various ganglionic blocking agents. In general, ganglionic blockade is ganglionic blockade, and the majority of the side effects are due to blockade of the parasympathetic ganglions. However, in some patients, excessive blockade of the sympathetic ganglions may result in dizziness and syncope due to excessive reduction in blood pressure. In table 5a is presented a comparison of the results in blood pressure reduction with the use of the three more common ganglionic blocking agents, that is, pentolinium, hexamethonium, and mecamylamine, given in combination with rauwolfia. There is little difference in the incidence of blood pressure control.

Before considering the side effects due to the ganglionic blocking agents (table 5b), one should decide whether or not these compounds are of any therapeutic value. This is especially true since the incidence of side effects is so high. The ganglionic blocking agents are particularly useful in the treatment of patients with malignant hypertension, who are just as seriously ill as patients with bronchogenic carcinoma. The one year survival rate of patients with malignant hypertension is certainly less than 30 per cent, and the two year survival rate is less than 10 per cent. If we had an agent which would increase the life span of a patient with bronchogenic carcinoma four or five fold, we would think that we had a fairly effective drug. This response rate is far surpassed by ganglionic blocking agents when used for the treatment of malignant hypertension.

In table 6 is presented a typical patient with malignant hypertension in whom renal function was determined prior to the availability of effective agents for reducing the blood pressure. There was a progressive deterioration in renal function so that glomerular filtration rate decreased from 88 to 30 ml. per minute over a period of 12 months, when the patient developed typical manifestations of uremia. Two months later he died. In direct contrast, table 6 presents another patient (W. L.) who was followed for six months and who developed the same type of renal deterioration. However, after six months he was put on effective antihypertensive therapy, and further progression of the renal damage was arrested. A similar response is presented in patient D. R. Therefore, we can conclude that effective antihypertensive therapy will arrest the progressive renal damage that was observed prior to the advent of effective antihypertensive agents.

It is of little value to determine the response in only one vascular bed (the kidney), since after all, we are interested in the patient as a whole. If

we prevent renal damage but the patient dies anyway, then we have gained little. Fortunately, this is not true since the kidneys are merely a reflection of the general derangement throughout the body. In table 7 is presented some mortality figures prior to effective therapy at the Jefferson Davis Hospital as compared to the results obtained since 1952, at which time oral ganglionic blocking agents became available. As will be noted, the survival rate after one year prior to 1952 was 27 per cent. This compares to 91 per cent survival rate in patients with a normal blood urea nitrogen and 60 per cent in patients with elevated blood urea nitrogen who were treated effectively since 1952.

Similar observations have been made by Schroeder and Perry.[1] They reported less than 10 per cent survival in their malignant untreated hypertensive patients as compared to 79 and 60 per cent respectively in patients with normal and elevated blood urea nitrogen respectively.

There are many considerations to be kept in mind when using the ganglionic blocking agents. In figure 4 is presented a typical renal hemodynamic response to blood pressure reduction with a ganglionic blocking agent. One of the things that has to be carefully guarded against is excessive reduction of blood pressure in the patient who already has serious renal vascular damage. Here we have the peculiar paradox in the patient who has renal vascular damage and progressive disease due to the hypertension. If we reduce his blood pressure too drastically, then we merely aggravate the renal decompensation. However, if effective reduction in blood pressure can be obtained without aggravating the renal decompensation, anatomic damage to the kidney usually can be arrested.

As shown in figure 4, the acute response to a ganglionic blocking agent is characterized by a rather sharp reduction in glomerular filtration rate and renal plasma flow, but hemodynamic readjustment takes place and these functions return to normal if the blood pressure is not

TABLE 5a.—*Comparison of Blood Pressure Response to Mecamylamine, Hexamethonium, and Pentolinium.*

	Mecamylamine (Inversine)		+ Rauwolfia + Hexamethonium		Pentolinium (Ansolysen)	
	No.	%	No.	%	No.	%
No. patients treated	80	100	75	100	75	100
Responsive		90		76		79
Normotensive		33		37		33
Unresponsive		10		24		21
Average dose of responders	23 mg.		2,307 mg.		341 mg.	

TABLE 5b.—*Side Effects Comparing Mecamylamine, Hexamethonium, and Pentolinium.*

	Mecamylamine (Inversine) %	+ Rauwolfia + Hexamethonium %	Pentolinium (Ansolysen) %
Bradycardia	50	68	67
Nasal congestion	35	61	51
Constipation	64	52	49
Weakness	48	*	*
Increased appetite	23	21	32
Weight gain	14	20	35
Dizziness	41	35	40
Syncope	1	5	1
Nausea	11		*
Vomiting	1	26	*
Blurred vision	35	65†	*
Impotence	57	50†	*
Anxiety-depression	0	3	4
Sedation	46	27	39

*Observations not available.
†Initially with hexamethonium alone.

TABLE 6.—*Comparison of Treated Patients and Untreated Patients Who Had Malignant Hypertension.*

	Mean Blood Pressure mm. Hg.	Glomerular Filtration Rate ml./min.	Renal Blood Flow ml./min.
Typical Renal Deterioration Occurring in an Untreated Patient (T. R.) with Malignant Hyptertension			
Control	190/146	88	1,022
3 months	210/158	65	672
6 months	240/170	54	431
9 months	228/165	42	210
12 months	248/162	30 (uremia)	105 (uremia)
14 months	Death	Death	Death
Effect of Treatment on Patient (W. L.) with Malignant Hypertensive Vascular Disease			
No treatment			
Control	160	90	940
After 6 months (no therapy)	175	55	365
After treatment			
3 months	105	52	410
1 year	98	56	458
Effect of Antihypertensive Treatment on Patient (D. R.) with Malignant Hypertensive Vascular Disease			
Without therapy			
Initially	168	84	782
After 6 months (no therapy)	176	62	535
With treatment (rauwolfia + pentolinium)			
Initially	120	52	480
After 3 months	111	58	510
After 1 year	114	64	581

reduced excessively. The renal hemodynamic response to a moderate reduction in blood pressure after one month of therapy with mecamylamine (Inversine) is presented in figure 5. As the blood pressure decreased and was maintained at the reduced level for one

TABLE 7.—*Comparison of Survival in Treated and Untreated Patients with Malignant Hypertension.*

	No. Patients Treated	Survival 1 to 2 years
Untreated (1949-1952)	22	6 (27%)
Treated		
Normal blood urea nitrogen	11	10 (91%)
Elevated blood urea nitrogen	5	3 (60%)

month, there was only a slight reduction in glomerular filtration rate and renal plasma flow. However, when the blood pressure was reduced excessively in a patient in whom the average mean blood pressure was 80 mm. of mercury (which would represent a diastolic pressure of 70 mm. and a systolic of 100), the glomerular filtration rate decreased to 65 per cent of the control and renal plasma flow was reduced to

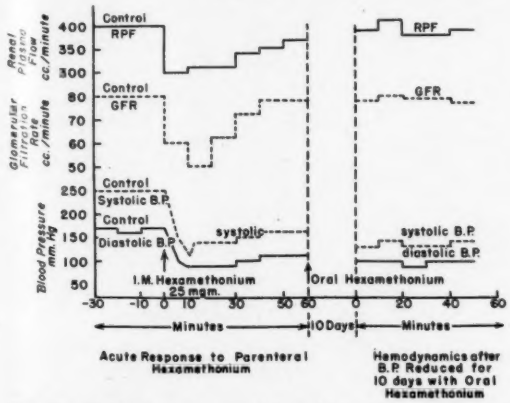

Fig. 4. Typical acute renal hemodynamic response to blood pressure reduction with a ganglionic blocking agent. There is a sharp decrease in glomerular filtration rate and renal blood flow which gradually reverts to the control values with prolonged drug administration provided that the reduction in blood pressure is not excessive. [After Moyer, J. H.; Miller, S. I.; and Ford, R. V.: Orally Administered Hexamethonium Chloride in Hypertension, J.A.M.A. 152:1121-1129 (July) 1953.]

60 per cent of the control (fig. 6). If the patient had normal kidneys, this would not seriously handicap him. However, in a patient with border-line renal function, this might completely decompensate the renal functional capacity.

If the blood pressure is reduced excessively, it is important to keep in mind that renal function is less in the standing position. Should excessive reduction in blood pressure occur, it is best to have the patient remain supine.

Excessive reduction in blood pressure is easily corrected by merely administering a vasopressor agent and raising the blood pressure to high normotensive or low hypertensive levels. Such a case is presented in figure 7. The blood pressure was reduced excessively and the glomerular filtration rate decreased to insignificant levels and the patient became anuric. When this patient was then infused with norepineph-

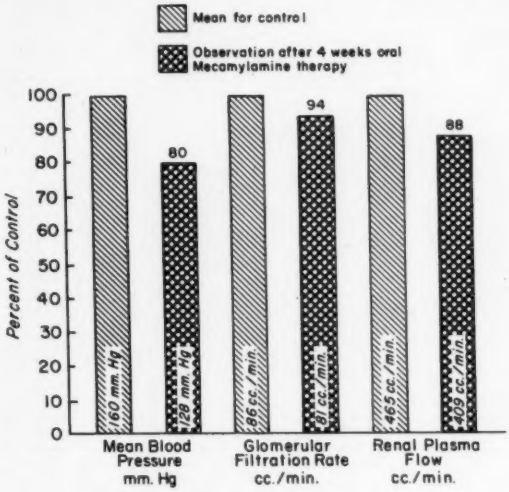

Fig. 5. Renal response to moderate reduction in blood pressure with mecamylamine (Inversine) for one month or more. Glomerular filtration rate and renal blood flow are not depressed significantly. (After Moyer, J. H., and others: A.M.A. Arch. Int. Med., in press.)

rine and the blood pressure raised to normotensive levels, glomerular filtration rate increased and urine output returned to normal.

How far then can the blood pressure be reduced in the patient with renal disease? A suggested approach to this problem is presented in table 8. Although this is a rough estimate as to the degree of blood pressure reduction that can be undertaken, dependent largely on the blood urea nitrogen, one must keep in mind that if the blood urea nitrogen is elevated prior to blood pressure reduction, close attention must be paid to this determination. As the blood pressure is progressively reduced, at any point that the blood urea nitrogen tends to become elevated, one should maintain the blood pressure at this level

TABLE 8.—*Degree of Blood Pressure Reduction (Upright) Dependent on Amount of Renal Damage.*

Blood Urea Nitrogen (mg./100 cc.)	Reduce Upright Blood Pressure to:
Normal	130-150/80-100
30 to 60	150-170/100-110*
60 to 100	180-190/110-120*
100	No reduction

*Do not reduce blood pressure further if blood urea nitrogen level rises.

or slightly higher. If one follows this outline, it is rare that progressive renal failure results from the administration of ganglionic blocking agents.

One of the most troublesome complications with the use of the ganglionic blocking agents is constipation due to blockade of the parasympathetics. If not handled quickly, this can lead to ileus and complete paralysis of the bowel. When this occurs, it should not be confused with bowel obstruction. In figure 8 is presented a patient who was allowed to develop ileus. This should never occur if the constipation is treated early and effectively. Certainly in this case "an ounce of prevention is worth a pound of cure." Suggestions for preventing this problem are (1) Prostigmin in a dose of 15 to 30 mg. orally or (2) milk of magnesia in a dose 15 to 30 cc. or cascara sagrada in a dose of 10 to 15 cc. If these are inadequate, then 30 cc. of milk of magnesia and 15 cc. of cascara sagrada should be given concurrently. As stated before, if constipation is treated early and effectively, ileus should never occur. Should ileus occur, however, the patient should be given 1 mg. of Prostigmin every hour until the ileus is relieved.

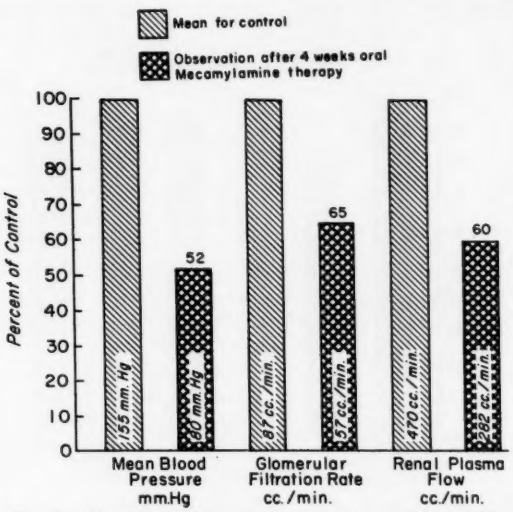

Fig. 6. Renal hemodynamic response to marked reduction in blood pressure with mecamylamine for one month or more. There is a significant reduction in glomerular filtration rate and renal blood flow. This is of little consequence in the presence of normal renal function, but in patients in whom the kidneys have been severely damaged, a reduction in glomerular filtration rate to this degree is a serious consideration and should be guarded against. (After Moyer, J. H., and others: A.M.A. Arch. Int. Med., in press.)

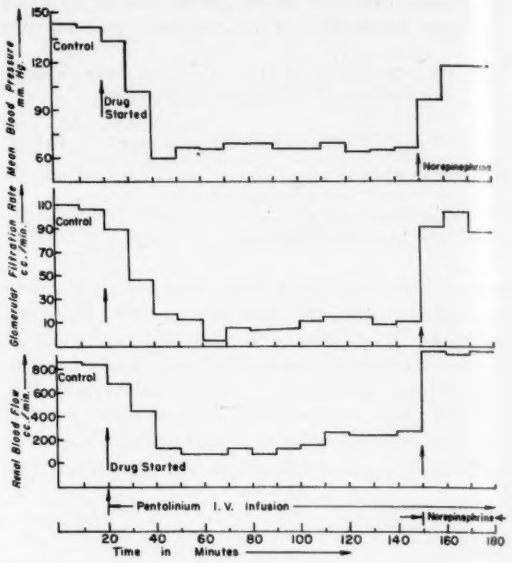

Fig. 7. Renal response to vasopressor agents in a patient who obtained an excessive reduction in blood pressure with pentolinium (Ansolysen). There was a sharp increase in glomerular filtration rate and renal blood flow towards the normal values.

The most important consideration in using ganglionic blocking agents is individualization of dose. In table 9 is shown the dosage range among the various ganglionic blocking agents and Protoveratrine. It is obvious that an average dose would be ineffective in some patients and intolerable in many others. Therefore, it is necessary to start out with a small dose and gradually increase the dose until the effective level has been obtained for each patient.

TABLE 9.—*Dosage Range Required to Produce Blood Pressure Reduction and Intolerable Side Effects in Patients with Hypertension.*

Drug	No. Patients Treated	Smallest Therapeutically Effective Dose Required in Any 1 Patient*	Largest Therapeutically Effective Dose Required in Any 1 Patient*	Average Dose*†	Intolerable Side Effects — Minimum Dose*	Intolerable Side Effects — Maximum Dose*
Hexamethonium	75	63	7,000	2,307	125	9,500
Pentolinium	75	20	2,200	341	40	2,800
Mecamylamine	50	4	210	17	5	200
Protoveratrine	36	0.8	8.0	2.4		

*Total dose in milligrams per 24 hours required to produce this response.
†Average effective dose required to produce optimum effects without intolerable side effects.

In figure 9a is presented a typical dose titration as it should be followed with the use of ganglionic blocking agents. First the rauwolfia compound is started and carried on for several days to two or three weeks. Then the ganglionic blocking agent is started in a small dose and gradually increased. Usually, the ganglionic blocking agent is more effective initially than it is after a week or two. This is a phase of partial tolerance. The rauwolfia compound is used concurrently since it makes the blood pressure reduction of the ganglionic blocking agent more stable. It reduces the required dose of the ganglionic blocking agent, and therefore, it decreases the side reactions due to parasympathetic blockade. This effect is no doubt due to the repressant effect of rauwolfia in the sympathetic nervous system and the brain. The supportive effect of the ganglionic blocking agent further depresses the outflow of vasoconstrictor impulses over the sympathetic nervous system to the blood vessels.

TABLE 10.—*Method of Dose Titration of Mecamylamine (Inversine).*

Week	Dose of Mecamylamine (mg.)			
	7 a. m.	12 noon	5 p. m.	10 p. m.
1	2.5	.....	2.5	.....
2	5	.....	5	.....
3	5	5	5	5
4	5	10	5	5
5	5	10	10	5
6	5	15	10	5
7	10	15	10	5

When the proper dose of the ganglionic blocking agent is being established, a number of things are worth keeping in mind. With the longer acting ganglionic blocking agents, the largest dose should be in the morning and at noon time. For some unknown reason, the drug becomes more effective at night, and if the big dose is given late in the day, these patients will experience rather marked faintness on arising in the morning. Therefore, we have set up the dosage schedule so that the patients receive the larger dose at lunch time. A typical dose titration is presented in table 10.

Also it must be remembered that the dose of the ganglionic blocking agent is a fixed amount just as in the use of a fixed amount of insulin in the treatment of diabetes. Therefore, if the patient is subjected to excessive stress, he will tend to break through the ganglionic blockade and his blood pressure will rise. It is frequently necessary to readjust the dose of the blocking agent during periods of stress as well as during periods of relaxation. During the latter, the patient often will experience excessive reduction in blood pressure due to the decreased requirement of the ganglionic blocking agent, resulting from decreased outflow of vasoconstrictor impulses. Therefore, these patients who are receiving ganglionic blocking agents must be kept under constant supervision.

Occasionally the question arises as to whether the rauwolfia actually has any effect on the blood pressure response to the more potent ganglionic blocking

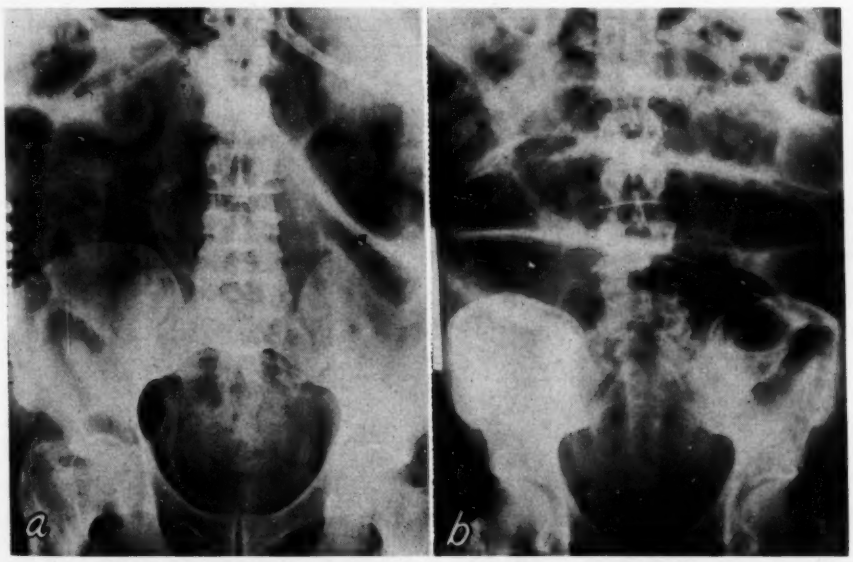

Fig. 8. a. Early distention of the colon in a patient who showed partial bowel paralysis due to the ganglionic blocking effect of Chlorisondamine (Ecolid).

b. Advanced ileus in the same patient. This can be prevented if cathartics and cholinergic agents are used as soon as evidence of severe constipation occurs.

agent. In figure 10 is presented a patient who was treated with a ganglionic blocking agent. His blood pressure was very erratic. After the rauwolfia was added, a typical response is observed. The variability of the blood pressure decreased and the dose requirement of the ganglionic blocking agent decreased.

Veratrum.—In the treatment of hypertensive emergencies, the use of potent intravenous veratrum products usually is not indicated. However, when they are indicated, excessive reduction in blood pressure may occur. It is necessary that a patient receiving a continuous infusion of intravenous alkavervir (Veriloid) be constantly supervised by a nurse or attendant. Such an attendant should be able to take blood pressures and record them accurately. The method for preventing accidents associated with a continuous infusion of veratrum is presented in figure 11. Here we have an infusion of norepinephrine set up, and should excessive reduction in blood pressure occur, it is easy to discontinue the veratrum and start nore-

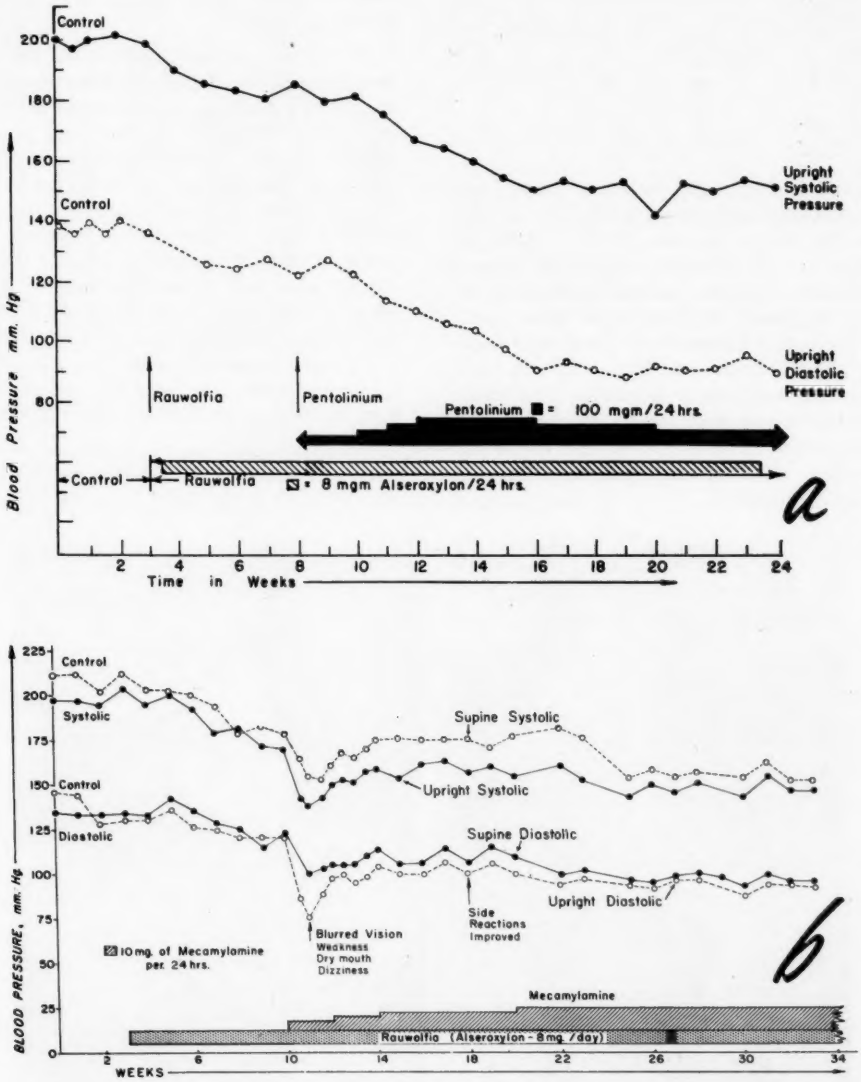

Fig. 9. a. Dose titration of rauwolfia and a ganglionic blocking agent (pentolinium) showing the progressive reduction in blood pressure in the upright position.

b. Dosage response to titration of the dose of mecamylamine given with rauwolfia. (After Moyer, J. H., and others: A.M.A. Arch. Int. Med., in press.)

pinephrine within a matter of seconds to correct any excessive depression in blood pressure.

Excessive Blood Pressure Changes.—In figure 12 is presented the cerebral hemodynamic response to excessive reduction in blood pressure. As the blood pressure is reduced, cerebral blood flow decreases concurrently, and if the blood pressure is reduced excessively, hypoxia occurs. This can be corrected easily by the administration of a vasopressor agent, thus returning the blood pressure to normotensive levels.

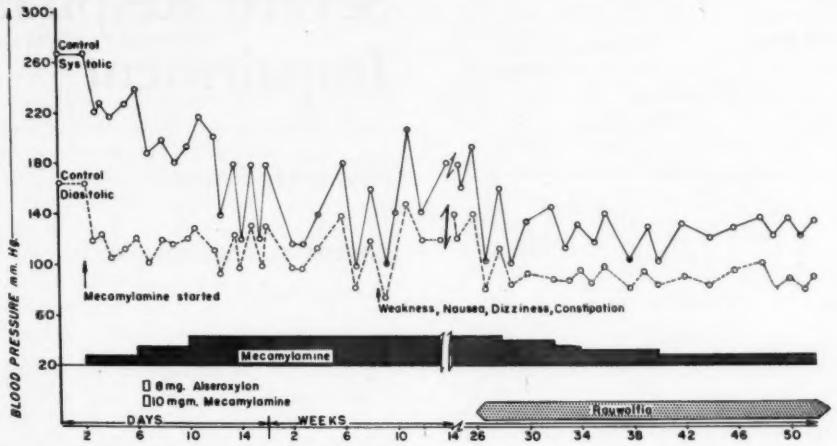

Fig. 10. The stabilizing effect of rauwolfia on the blood pressure (upright) response to ganglionic blockade. Before the administration of rauwolfia, the blood pressure was reduced with mecamylamine, but the response was erratic and associated with symptoms. After rauwolfia was given, the dose of the ganglionic blocking agent could be decreased, and the blood pressure appeared to be much more stable and effectively controlled. (After Moyer, J. H., and others: A.M.A. Arch. Int. Med., in press.)

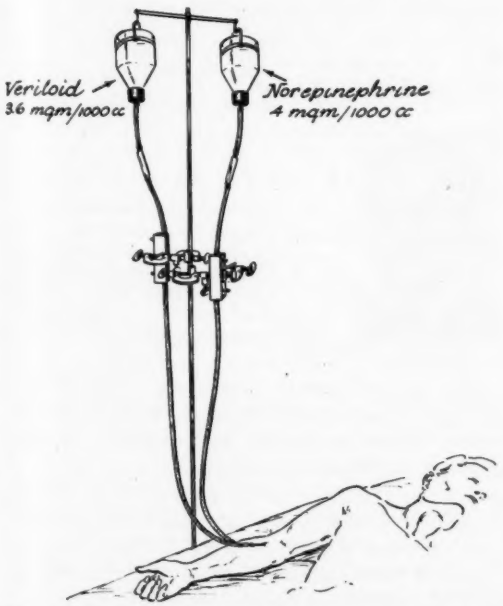

Fig. 11. Technical set-up for the administration of the veratrum compounds when given parenterally. This allows for a rapid correction of hypotension by the use of norepinephrine should the administration of the veratrum compound be associated with an excessive reduction in blood pressure.

Large doses of steroids may cause an elevation in blood pressure. Usually there is an associated retention of water and sodium. This frequently can be circumvented by the concurrent use of diuretics (fig.

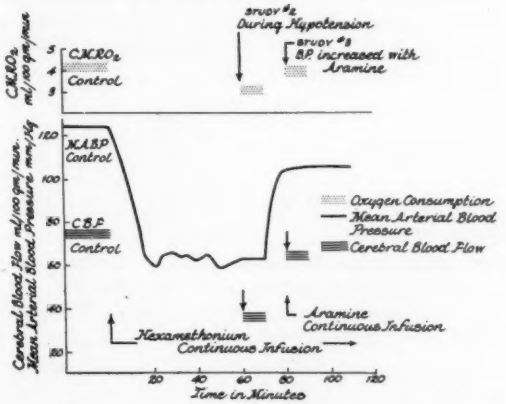

Fig. 12. Effect of reduction in mean blood pressure to hypotensive levels on cerebral hemodynamics. When the blood pressure is reduced excessively, cerebral blood flow decreases. This can be corrected easily by raising the blood pressure with a vasopressor agent such as norepinephrine. [After Moyer, J. H., and Morris, G.: Cerebral Hemodynamics During Controlled Hypotension Induced by Continuous Infusion of Ganglionic Blocking Agents (Hexamethonium, Pendiomide and Arsonad, J. Clin. Invest. 33:1081-1088 (Aug.) 1954.]

13), particularly Neohydrin. When this combination is used, the Neohydrin should be administered in doses of more than 6 tablets per day if an adequate diuretic effect is to be obtained.

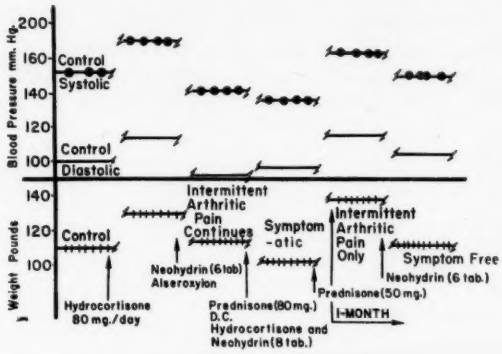

Fig. 13. Clinical summary of a patient with lupus erythematosus who required large doses of prednisone and prednisolone. The administration of these steroids was associated with water and fluid retention and a mild elevation in blood pressure. This could be corrected easily by the administration of adequate amounts of the mercurial diuretic, Neohydrin.

SUMMARY

Problems associated with the use of some recently released cardiovascular drugs have been reviewed. The untoward effects associated with these agents can be minimized by careful attention to the determination of proper dosage for each patient and by a better understanding of the pharmacodynamics of the drugs being administered.

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1. Schroeder, H. A., and Perry, H. M.: Hexamethonium Chloride and 1-Hydroyinephtholoyine (Hypex) in Malignant Hypertension, presented before South. Soc. for Clin. Res., Jan. 30, 1954.

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Dr. Dennis, Department of Medicine, Baylor University College of Medicine, Houston.

Allergy Training, Education, Research Campaign Planned

The American Foundation for Allergic Diseases has announced plans for a $1,100,000 campaign to carry out a three point program of professional training, public education, and fundamental research. Although the campaign still is in the organizational stage, the first gift for basic research, $10,000 from the Pfeiffer Foundation, already has been received, said Dr. Horace H. Baldwin, president of the A.F.D.A.

Management of The Patient with Severe Respiratory Impairment

Postacute Phase

ROBERT R. JACKSON, M. D.

Houston, Texas

ALL who have managed severe respiratory impairment in the patient with acute poliomyelitis appreciate the catastrophe that befalls the patient, his family, and his community when a diagnosis of poliomyelitis is made. This diagnosis carries a superemotional charge and materially alters the reactions of the patient and his family to all aspects of care. The management of this patient in the acute phase will not be discussed here except to state that the availability of a well integrated and highly trained staff is essential. It must have available to it the finest of equipment so that it can meet any emergency that may supervene.

DR. ROBERT R. JACKSON *offers this study from Southwestern Poliomyelitis Respiratory Center and the Departments of Pediatrics and Physiology, Baylor University College of Medicine, aided by a grant in aid from the National Foundation for Infantile Paralysis.*

My associates and I believe that comprehensive management during the first six weeks of illness is of marked importance to the final outcome of a program of rehabilitation. It can be shown that if a patient is compromised, most particularly by hypoxia or asphyxia during his acute phase, his period of convalescence is prolonged; his capabilities of tolerance to a convalescent program are diminished; and his ultimate prognosis is poorer than in the patient handled with great care during the acute phase and in whom asphyxia is avoided at all costs. This requires careful, constant observation and recognition and immediate intensive treatment of the complications of the acute phase.

In the early postacute phase, judicious weaning of the patient from the tank respirator is equally vital with physical medicine and orthopedic management to the rehabilitation program.

CLINICAL MANAGEMENT

To make a judicious approach to the problem of weaning from respiratory aid so that it is not carried forward too vigorously or too rapidly, the patient should have evaluation of his physiologic reserves and capabilities, and then at four to six week intervals have repeat evaluations. Evaluations are made of (1) respiratory function, (2) hematologic status, (3) cardiac status, (4) biochemical and renal status, and (5) general emotional and nutritional state. Longitudinal observation of these physiologic measurements will show early changes if the patient is being "overworked." By careful attention to these early signs one can be forewarned of impending gross clinical change that would show, without doubt, that the weaning program had been pushed to the point of stress.

The patient's respiratory function is evaluated in our Center utilizing the following items: the vital capacity, the tidal volume, and the maximum breathing capacity. These values are measured and related each to the other. If the patient is well progressed in his weaning program and has begun to sit upright, these values are checked in the sitting as well as the supine position. From time to time it is well to check the tidal volume in breathing aids the patient is using to be sure he is getting adequate ventilation in them, as well as during the times of unaided breathing. It might be well to point out here that these values do not require expensive equipment. They can be determined easily and quickly on a standard hospital basal metabolism machine. If equipment is available, we think fluoroscopic evaluation of the muscles of breathing offers accurate and useful information on the patient's present respiratory status and in planning his future weaning program. This is particularly important in the small child. Fluoroscopy also permits one to watch for silent pulmonary complications and for any changes in the cardiac silhouette.

Hematologic evaluation includes the complete blood count and a hematocrit determination which are checked for evidences of infection and hemoconcentration. In a patient who is being overworked and forced to breathe too long in the face of inadequate ventilation, a persistent rise in hemoglobin and hematocrit level is seen.

The electrocardiogram is checked carefully for rate and rhythm disturbances, changes in PR distance, the width of P, the width of QRS, the QT time, and the spatial projections, particularly the T vector, all of which, if plotted against time, will show, by their changes, evidences of stress. One of the easiest and most useful of the clinical measurements that can be done to help give clues to injudicious weaning or overzealous physical therapy programs is that of measuring, for a 48 hour period, the blood pressure, pulse, and respiratory rate. If the patient breathes alone or in any specific form of breathing aid for periods greater than four hours, measurements are taken every four hours. At any time there is a change in his breathing program, such as a move from tank respirator to unaided breathing, then the pulse, blood pressure, and respiratory rate are taken 15 minutes before the move. These vital signs, when checked in this fashion, provide a sensitive index to stressful situations the patient might find himself placed in, and of which neither he nor his physician has been aware. These measurements are also done as spot check values during the early phases of a patient's return to the sitting or standing position. Paralyzed patients have little vasomotor tolerance to the erect position and must be reeducated to this position gradually by using the tilt table or standing bed.

Blood chemistry studies and urinalyses are done for evidences of altered renal function or infection. The presence of bacteria in the urine, in the absence of symptoms, is not enough for treatment. It is well to culture the urine so that if systemic evidences of infection appear, accompanying renal symptoms, then one is forewarned of the organism most likely responsible. When systemic symptoms are present, treatment must be prompt and vigorous. It is imperative that stones blocking the renal outflow tract be excluded by intravenous pyelography whenever renal infection is detected.

The exact values found in any one of these check points is not so important as the trend of the values against time. If one is to get the best results from this type of evaluation, the periods between evaluations should find the patient adhering to a fairly tightly regulated schedule. This type of scheduling requires close cooperation among all the services involved in the approach to rehabilitation. The stringent scheduling is necessary, as is the close cooperation, if there is to be avoidance of overworking, fatiguing, and finally, stressing this patient beyond his capacities and capabilities. If the early warnings of fatigue are ignored and the patient is pushed beyond his safe limits, the value of rapid pushing in the direction of more independence is lost and the patient actually loses ground. Never more than when one is faced with a catastrophic illness, such as the residua of severe polio, is the old adage that "haste makes waste" truer. Careful attention to the mood of the patient, the presence or absence of anorexia, and the status of the factors outlined in the evaluation check

list will help prevent overworking and overstressing the patient.

The best way we have found to keep a continuity of care is to have frequent staff meetings and conferences with all members involved in the management of a patient. By this technique one may pick up some of the earlier signs of a too rapidly progressing program.

One of the earliest signs is emotional lability, which is, unfortunately, often a very subtle sign, but usually manifests itself as a general irritability and disinterest in undertaking any additional activity. The appetite almost always falls off about this time. Spontaneous breathing begins to deteriorate, and the patient requests more time in breathing aids. The check list previously mentioned also begins to show vital sign changes such as an arrest of a previously rising vital capacity or a beginning fall. The maximum breathing capacity, reflecting endurance, often falls to a low level when related to vital capacity. The pulse rate rises, and one usually notes, on looking at the serial 48 hour pulse and blood pressure chart, that the pulse rate takes sudden bounds during the times the patient is breathing alone or is using one of the less efficient breathing aids. The electrocardiogram begins to show evidences of shortening of the PR time and prolongation of the QT time. If the process is allowed to continue, the results of blood chemistry and urine studies begin to show some change, notably falling serum potassium, rising serum sodium, or rising hematocrit levels and a decreasing urine specific gravity. This last results in a high obligatory urine volume and allows for potassium washout.

If, for any reason, these signs do not become obvious or are overlooked, the signs and symptoms of a more severe stress begin to appear. There is a marked increase in irritability, and often there is frank dyspnea. Body weight increases, but it is a false increase. It is more the picture of cortisone induced Cushing's syndrome with edema and puffy facies, coupled with seborrhea and acne. The vital capacity definitely begins to drop, and all of the aforementioned changes in pulse rate, blood pressure, electrocardiogram, blood chemistry, and urine become more marked.

We believe that no later than this stage should the situation be recognized and corrective measures undertaken. If the problem is not recognized and the active program is continued, the direst of consequences can result. The patient's chemical economy is compromised and he may die suddenly. On recognition of the syndrome, the patient's entire program should be reevaluated. There should be immediate retrenching of the breathing schedule back to full-time tank respirator breathing aid. Physical therapy should be cut to the minimum possible to retain mobility of joints on passive range of motion, and cessation of all but essential activities should be ordered.

As stated already, this syndrome is more to be avoided than recognized and treated. However, it cannot be completely avoided, and one must make all efforts to become aware of the subtle early signs of overwork so that prompt measures toward remedying the situation can be instituted. These remedial measures consist primarily of increased amounts of rest, but of equal importance is a careful explanation to the patient and his family of what is happening and why it is happening, because at every seeming setback the patient loses heart unless the situation is carefully explained and reexplained. It can be stated flatly and truthfully to the patient, and his family, that these temporary retrenchments of program will speed the program in the final analysis because it can be adequately demonstrated that if retrenchment is not made in the patient's breathing and work schedule, the signs and symptoms of severe stress will appear.

REHABILITATION

The goal of this whole program is, of course, a progressive rehabilitation back toward the nearest semblance of normal life that can be achieved within the framework of the severe paralysis that is almost always present in a respirator patient. The problems of achieving this goal are many, and the requirements of these patients myriad. It is important to impress upon the patient and his family that for the rest of his life balance must be struck between the reserves and the demands that are placed upon the reserves; that an attainable goal should be the one that the patient is reaching for. It is important to give the patient a goal that he can attain, and then if he can exceed it, that is all to the good. It must be explained to the patient and to the family that this disease results in a severe depletion of all reserves, and that there is a decreased capacity for any sort of work. Therefore, the scheduling and the whole program must begin with the lowest possible level of energy expenditure, and then, as the reserves of energy and strength recover, the work load can be increased.

It is also important that the entire staff know as much as possible about the patient who is being helped toward a rehabilitation goal. This requires that a psychological profile be available so that the staff can know the type of personality with which it deals. An active medical social service department is vital to the whole program, for the social worker will be the family's main contact with the rest of the members of the staff and will be the prime mover in the final change from hospital to home atmosphere.

The patient must have confidence in the entire staff. This is crucially important when the weaning program is first set up. It is here that a strong, well directed nursing staff is of the most help, and this staff must have complete and absolute familiarity with every piece of equipment being used. I include here the nonprofessional attendants, orderlies, and maids who fall under control of the nursing department. It also must be so arranged that the patient and family know in advance that they will not dictate the treatment or the scheduling of treatment, but that all will be kept completely informed of the patient's status and that they will be consulted on choices when situations permitting choice arise.

As soon as the patient can tolerate it medically, he is introduced to the physical therapy department for initial muscle strength evaluation and the setting up of a program to stretch tight muscles and mobilize all joints. This usually can be when he has been free of fever for 48 hours. From there, as he progresses, he is seen by the occupational therapist, and useful, functional activities are undertaken. Both of these programs should be under the direction of cooperating orthopedic and physical medical consultants.

All of these things, as individual and remote as they seem, have important bearing on whether or not (1) the patient will be weaned successfully from the tank to the less efficient aids, then to unaided breathing if his vital capacity permits, (2) he will accept his limitations and recognize the goals that are attainable by him, and (3) he will do the really hard work that is necessary to reach these sometimes rather limited goals.

All through the convalescent period the patient is certainly showing change, sometimes for the bad, but usually toward the good, and it behooves staff members to know of these changes and how they can help direct the patient's energies into useful channels. One thing that is coming ever more clear is that these changing physical and emotional reactions of the patient can be used to his advantage by offering him one or more changes in environment during the course of his hospitalization. This is rather difficult to achieve in the usual hospital surroundings, but a semblance of it can be reached by careful matching of patients as roommates, frequent changes of staff through the various rooms, and then if possible, a complete removal to a new physical environment during the latter stages of rehabilitation and the final stages for home planning.

CONCLUSION

The patient who needs breathing aid must have available to him all the services and facilities of a general hospital and a highly trained staff to assist him over the exhausting acute phase of his disease. In his early convalescence he must be protected from infection and too vigorous a program of rehabilitation. As physiologic reserves rebuild it is safe to step up the pace of rehabilitation and useful to move the patient to a new environment if one can be made available. It is essential that all members of the various disciplines involved meet together frequently so that there can be singleness of approach to the patient until the final stage of rehabilitation is reached, namely return home.

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An Undisciplined Child

A Clinical and Organic Syndrome

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A TYPE of behavior in children who appear incapable of responding to routine disciplinary measures may be due to organic cerebral damage and should be clearly delineated as a symptom complex. The syndrome is not generally known and is often confused with other behavior disturbances. The cerebral damage in these cases may be minimal, so that gross changes in intelligence and motor activity may be entirely lacking. Failure to recognize the clinical picture often has profound effects on the patient and his family. In 1914, Binet and Simon[3] described a

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child of this type as "ill-balanced" and "undisciplined," and in 1934, Kahn and Cohen[8] presented a classic description of a similar type of child, coining the term "organic driveness" to describe the clinical picture. My clinical observation supports the impression that such patients present a characteristic behavior pattern and that mild cerebral damage is an important underlying cause of the clinical manifestations.

CLINICAL MANIFESTATIONS

Annoying aggressiveness, unpredictable moodiness, and an "outstanding inability to be quiet"[8] are typical behavior manifestations of the syndrome. Parents usually describe the child's restless activity as follows: "He can't sit still. He's highstrung and nervous. He's too loud. He jumps from one thing to another. He doesn't watch TV like other children do. He just doesn't act like our other children.

"Punishment seems to do no good. He is either calloused to physical pain and is unafraid, or he is unduly fearful of any type of correction. He has good days and bad days, and we can't explain why. He doesn't finish what he starts. We, as parents, think he is smart enough, but he doesn't seem to be able to apply himself to a task. And if he tries too hard, which is not likely, he appears to be frustrated and then he 'goes to pieces' completely."

Before the child begins to attend school his excess motor activity and impulsive, unpredictable behavior may be tolerated by some parents with surprising patience. Such parents come to accept the behavior as being normal for the age of the patient. Other parents seek assistance from relatives, from neighbors, or from their physicians, and too often the advice is given and accepted that the child is being deliberately difficult and willful. In some instances this creates a "never-ending contest for power"[9] between the parent and the child. Others briskly deny any difficulty and appear insulted at the suggestion of the possibility that anything is really wrong with the child. Still other parents recognize early that the child is a "misfit" and that "we can't take it any longer; we need help!"

The child's attendance in kindergarten or elementary school precipitates a crisis and often serves to bring into focus other features of his abnormal behavioral pattern. The experienced teacher becomes aware of the child's problem and recognizes that he has a short attention span, a distressing shift in interest, and in general a very poor over-all class performance. The teacher actually may suspect mental retardation in some of these children. She usually describes the child's disturbing behavior as follows: "He upsets the room. He doesn't remain in his seat. He is always interested in what others are doing. He doesn't pay attention to instruction. He seems entirely unresponsive to correction. He seems to explode with anger and show temper without sufficient cause. Arithmetic is his most difficult subject. Some days he seems to learn rapidly and then again he seems to forget everything. He shows undue persistence in that he may ask the same question over and over and over again. He also 'gets stuck' with an idea and keeps on talking about it without end. He often reverses letters, for example, 'mazagine.'"

HISTORY

Clear-cut evidence for perinatal difficulties such as neonatal anoxia, cerebral hemorrhage, or convulsions, is often lacking in the history. The role of defects in development and of insults to the central nervous system of the fetus is difficult to evaluate in this group of patients. History of acute infections in early childhood may suggest the complication of mild encephalitic involvement with minimal residual damage to the brain. History of gross brain damage associated with kernicterus, purulent meningitis, head trauma, toxic encephalopathy, and clinical encephalitis offers more definite evidence of previous injury to the central nervous system.

The developmental history reveals that in many cases there was some delay in motor function, such as walking, climbing, and establishment of handedness. Often there is marked incoordination in the use of a tricycle and particularly a bicycle. Speech is apt to be slow. Words are frequently indistinctly enunciated, and reversal of letters in the words and reversal of word position in the sentence tend to persist longer than in the normal child.

Other points are often obtained in the history: unreasoning resistive behavior, inordinate dependency on the parents, impulsive loudness, excessive destructiveness, and uncalled for abusiveness of those around him. The parents often recognize that the child has few friends and that he seems to be a "misfit."

PHYSICAL EXAMINATION

Fleeting interests and inability to remain quiet make the child's presence annoying even to the physician. The doctor is soon able to corroborate the accuracy of the history. The child is babyish in his actions and displays undue dependence on his parents. He is unreasonably talkative and without prior acquaintance may show uncalled for affection toward the physician. Mood changes occur with unexpected

abruptness—from silly laughter to deep sadness and tears—all without rhyme or reason.

The examination is carried out with difficulty. The patient cannot remain still. He fingers the equipment and "gets into everything." General movements are uneven and lack precision. Deep tendon reflexes may be brisk. Slight dysarthria, impaired right and left discrimination, and obvious difficulty in dressing himself may be noted. Postural and righting reflexes are frequently abnormal and provide objective clinical evidence of central nervous system dysfunction.[10]

DIAGNOSTC TESTS

A child of this type has trouble in simple drawing tests, such as copying a square or a diamond. He has difficulty in repeating backward three or four digits, and in distinguishing objects of different weight. The results of his Goodenough "Draw-A-Man" test are inferior to his performance level on the Stanford-Binet test.[1] In cases in which cerebral damage is minimal, the over-all results of standard intelligence tests may fall within normal limits.

The electroencephalogram in many of these so-called "organically driven" children shows changes indicating disturbances in function of the brain, but the findings are not considered to be characteristic or diagnostic.

TREATMENT

Management is difficult. However, with right approach, therapeutic results may be rewarding indeed. Parents need insight and better understanding of the underlying problem and must be freed of the feeling of guilt that they might have toward their child and his problem. Their relationship heretofore has all too often been a trying ordeal despite desperate efforts to accept the child as he is and to adjust to his annoying behavior. Parents cannot understand this type of child nor the criticism heaped upon them by relatives, teachers, physicians, and neighbors for not having done a better job of child rearing. Perhaps then, for the first time, the parents learn that their child's unusual behavior is actually due to "brain damage" or "cerebral disorganization," and that blame for his behavior is not theirs. Nor is it the fault of the child. It is with relief that parents learn that professional advice and help may be available as giving them hope for the future. Therapy is directed toward control of the "disorganized" brain, which, as Kahn and Cohen[8] emphasized, makes the child a puppet at the mercy of these disorganized centers in the nervous system. With successful therapy the child will then have the benefit of his innate good intelligence, which up to this time has been distracted by the dissipating distraction of his driven activity.

Barbiturates, time honored drugs in the management of nonorganic behavior disorders and epileptiform states, worsen the behavior of patients with organic drivenness. Rather than improvement in behavior, all too often an increase in restlessness is noted in patients of this type who are placed on phenobarbital. The same disappointing results are usually noted with hydantoins (Dilantin Sodium and Mesantoin) and other anticonvulsant agents commonly used in patients with cerebral dysrhythmia of the epileptic type.

It is of particular interest that the amphetamines (Benzedrine and Dexedrine Sulfate), which have been recommended by Bradley,[4] produce favorable effects in these children, namely, subdued behavior, increase in attention span, and definitely improved scholastic performance. Bradley[5] established that Benzedrine Sulfate, in doses ranging from 10 to 40 mg. daily, gave favorable results in 77 per cent of children treated, and that Dexedrine Sulfate, in doses ranging from 5 to 30 mg. daily, gave improvement in 45 per cent. The amphetamines are given after breakfast and after lunch. Sleeplessness is usually prevented by omitting a supper or evening dose. The advantages gained in improved behavior greatly outweigh any disadvantages due to side effects of the drug, such as anorexia and mild abdominal discomfort.

In our clinic, 52 children with varying degrees of brain damage were treated with reserpine and chlorpromazine. Forty-four per cent of these children responded favorably to these drugs. Chlorpromazine was found to be more effective than reserpine. However, neither drug, in the opinion of the observer, gave as good results as were obtained with Benzedrine Sulfate.

An ideal school environment for this type of child unfortunately cannot be found in most communities. Special classes for the child with organic cerebral damage, when they are available in a community, are found to be ideal for these children. If the teacher, as well as the parents, is aware of the child's basic difficulty, a great deal can be accomplished. Small classes of 12 to 15 children offer real advantages in that personal attention can be given to each child and distraction can be reduced to a minimum. This problem is well presented in a book written by Strauss and Lehtinen[11] in which they discuss methods and their experiences in the management of the brain-damaged child.

It is necessary that the child with cerebral damage receive more than the usual amount of individual attention and affection required by the normal child. Unfortunately, the patient soon gains insight as to

his own inadequacy and becomes increasingly aware of the ridicule and rejection on the part of his school friends, siblings, and parents. The brain-damaged child does indeed "grow up the hard way"[6] and may suffer permanent damage from undue social and emotional stress.[2] Quoting Gesell and Amatruda,[7] it is well to emphasize that "the child with only minimal injury needs recognition and understanding, and more than ordinary protection from stress and competition. . . ."

PROGNOSIS

Cerebral damage as a cause of abnormal undisciplined behavior does not mean necessarily that the child's future is hopeless. In patients with normal intelligence the prognosis is favorable,[1, 6, 9] and the intensity of "drivenness" tends to diminish as the child matures. With proper help and guidance the child's "extreme surplus of energy"[8] can be directed and harnessed so that it may actually become an asset rather than a hindrance. Without proper handling the patient may continue to do poorly and continue to show undesirable behavior and conduct. However, a child's innate force to be "normal" is strong, and the patient may be shown capable of overcoming organic, emotional, and environmental obstacles to optimal development.

SUMMARY

A symptom complex of a type of behavior disorder in children with normal intelligence is described. The underlying basis for this so-called "driven child" is disorganization of the brain due to developmental or acquired damage to the central nervous system. It is essential that children with this behavior syndrome be recognized early so as to prevent further difficulties due to psychic trauma and emotional crises. Judicious use of appropriate drugs, especially the amphetamines, along with enlightened counselling for the parents and teachers, yields rewarding and favorable results in many instances.

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Care of the Patient With a Chronic Neurological Disease

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SINCE World War II, we have come to recognize the needs of the chronically disabled and have learned much in the service of caring for them. It is now better appreciated that patients have assets as well as liabilities. It is the assets of the individual patient that must be mobilized, revitalized, and put in action. Such a program often will call upon per-

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sons with many skills, as well as the total resources of the community, to help reach the therapeutic goal. It is not economically nor socially sound merely to place the patient with a chronic neurological disorder in an institution.

Goodman reported on his findings in regard to the causes of disabilities in patients with chronic disease. He evaluated a 160 bed hospital which excluded patients with infectious disease or psychoses. Over a period of six years he noted that 51 per cent of the patients had disease of the nervous system. One out of every 5 patients was admitted because of a cerebral vascular accident. In a survey of the city of New Haven, Conn., it was found that 121 individuals per 1,000 population suffered from physical disabilities or chronic disease. Forty were so severely disabled they were home-bound, and 40 were under the age of 25.

The physician's attitude is of the utmost importance in handling the chronic case. All too often these patients have been left to work things out for themselves, after being told that they have a chronic disorder. Too often, we tend to look at the involved areas and not the patient as a whole. It is to be remembered that the average person utilizes only 25 per cent of his physical potentialities in daily living. Thus, there is left a wide area for compensation and reserve for the patient and his physician to work with.

The care of the patient with chronic neurological illness should begin at the time of the initial examination. It is important that each case be given a careful and intensive survey from a diagnostic standpoint. This will provide an opportunity for discovering any process that may be amenable to specific treatment. One should not neglect the patient's general condition because he presents a neurological problem. The medical examination should include the patient's cardiac and pulmonary status, condition of the renal system, and orthopedic disabilities. The status of all these body systems will play an important role in the ultimate results achieved. One becomes increasingly impressed that the patient's nervous system can be a mirror of underlying disturbances in other systems. This is particularly pertinent in the cerebral vascular diseases. Many such patients have evidence of cardiorenal disease that may be even more significant as a disabling factor.

The nature of the process affecting the nervous system will give pertinent information regarding the prognosis. This will enable the physician in charge to plan more wisely for the patient's needs. From such total studies one will be able to set a reasonable goal for each patient. The ultimate goal will vary from one patient to the other and from time to time in the individual patient. Again it should be emphasized that it is not enough to look only at the patient's liabilities. It is actually the assets that will determine the success or failure in each case. If, as has been said, the average patient utilizes only 25 per cent of his available assets under normal circumstances, then he has many potentialities remaining to be called upon. In addition to the actual capabilities, such factors as the patient's intellectual endowment, vocational background, family, and community potentials must all be considered.

It would be impossible to cover all the chronic neurological disorders in a brief review, but there are many fundamental considerations common to all which should be given attention.

PHYSICAL PROBLEMS

A large group of these patients have some degree of disturbance in motor power. Most common among these is the hemiplegic. Let us discuss the care of the hemiplegic patient since the principles of treatment involved can be applied to any spastic paralysis. Fundamentally it is just as important to prevent further motor loss from contractures as it is to improve muscle strength. By proper positioning of the involved limb and the use of range-of-motion exercises such contractures can be prevented. A footboard will help to maintain the foot at a right angle and keep the bedcovers, as well, from aggravating the frequently encountered foot drop. A small pillow or sand bag on the outside of the thigh and lower extremity will prevent an outward rotation of the leg. Placing a pillow between the axilla and chest wall will prevent an external rotation and adduction deformity of the upper extremity. Passive motion at all joints should be started early. If a therapist is not available, a member of the family or nurse can be trained. Failure to carry out such activity and positioning will lead often to fixed deformities that can prolong and retard any expected recovery. The patient also can be taught to aid in his own recovery. The person who can raise his leg above the mattress for a distance of 4 inches can be expected to learn to walk. At an early date he should be placed in a sitting position to learn body balance. After this is mastered, he should start to stand. This is best done with the aid of attendants and if necessary a temporary splint to stabilize the knee. Some therapists prefer to start the patient with crawling on a mat. Reciprocal motion is best obtained by gait-training utilizing parallel bars. These can be improvised at home. A short leg brace will help the patient overcome his foot drop. The finer movements of the fingers seldom return. Many patients can be taught to use the other hand to carry out fine work. When the patient is left with a completely paralyzed upper extremity, the use of a sling or placing the hand in the belt or pocket will eliminate the heavy pull of the extremity and the possibility of dislocation at the shoulder.

Those patients with a flaccid paralysis will require a more individualized approach in addition to the

procedures noted above. Various types of bracing and orthopedic procedures are often necessary to achieve the best results.

Not all patients will be able to ambulate unassisted. The proper use of a wheel chair may allow greater freedom of movement. The patient not only should be given such equipment, but must be taught the proper handling of it. One of us remembers vividly a middle-aged man with a paraplegia who not only cared for his entire needs, but could go over most of his farm and even hunt with the aid of his wheel chair. Often a combination of aids to ambulation is used by the patient.

Disturbances in sensation also may severely disable a person. With the failure to appreciate noxious stimuli, the patient may injure or burn himself without being aware of it, resulting in major damage. The use of heat in areas where there is a loss of sensation also can result in burns. A limb in which there is a loss of proprioceptive sensation may be as useless as that found to have a motor paralysis. In addition to teaching the patient to protect these affected parts, he may be taught to compensate by utilizing to a greater extent his other senses.

Nutrition is another problem that must be taken into account. Many patients have trouble swallowing as well as assimilating their foods. Nasogastric tube feedings are often utilized. The new plastic nasogastric tubes may be left in place for long periods with a minimum of irritation. The formula used should contain a high proportion of protein substances. Additional vitamin supplement is also of benefit. During the recent war, work on the metabolism of the bedridden patient disclosed many useful facts. Such patients tend to have disturbance in calcium metabolism and in nitrogen balance. Control of the calcium disturbance is important in the prevention of renal calculi and osteoporosis. In addition to the limitation of calcium in the diet, getting the patient upright will aid in correcting this metabolic disturbance. The same measures also will aid in controlling the nitrogen balance. Small amounts of androgens also will tend to overcome this disturbance.

Bed sores can become a major therapeutic problem. However, one should endeavor to prevent them rather than have to cure them. Good nursing care with frequent turning of the patient is of basic importance. The bed linen should be dry and without wrinkles to avoid irritating the skin and setting the stage for decubiti. If small areas of irritation develop on the skin, one should work with them aggressively. Mild massage of such areas, as well as taking pressure off them, is useful. The patients with spinal cord involvement can be handled best on the Stryker frame. This facilitates frequent change in position. Recently an air mattress with cells which inflate alternately has become available. The value of this equipment should not be allowed to overbalance the importance of proper nursing care. Those patients who can help themselves should be indoctrinated with the fact that they must change position frequently whether they are recumbent or in a chair. The patient also should be taught to inspect his skin daily and report any signs of irritation.

Control of the bladder and bowels is disturbed in many neurological patients. Infection of the renal system can be serious and may be the primary cause of death. The proper use of the indwelling catheter for the bladder disturbance of neurogenic origin is important. This prevents overstretching the bladder wall as well as leaving residual urine which can be the culture medium for the growth of bacteria. Daily irrigation will massage the bladder and aid in maintaining its size. Daily chemotherapy also can prevent infection, but drug therapy alone cannot be considered good bladder care. Frequent checks of the entire renal system are useful and in some cases specific types of urological surgery are indicated. Laxatives and enemas will aid in regulating the bowel function. Some can be taught to initiate the bowel movement by stimulating the anal area with the finger. There are also techniques for bowel and bladder retraining which depend upon placing the patient on a schedule for evacuation. This schedule may be altered as the patient progresses from one level of functioning to another.

Some patients will need suctioning and even a tracheotomy to maintain a clear airway. The mechanical respirator can be lifesaving. The persons caring for such patients must be familiar with these devices as well as with the problems of respiratory physiology.

Control of seizures is no longer difficult. We have many medications which when properly administered can be expected to prevent seizures. If convulsion occurs, all one can do is to protect the patient against injury.

When there is damage to certain areas of the dominant cerebral hemisphere, the patient may have difficulty with communication. This may be in the spheres of reception or expression, or both. Many patients with this disability will respond to speech training. It is important that those associated with the patient stimulate him to attempt to express himself. Where there is no speech, the use of written signals or gestures may be necessary.

MENTAL AND EMOTIONAL PROBLEMS

Intellectual and personality changes may accompany, or be the primary problem, in patients with

chronic neurological disease. This is often the most disabling aspect of the entire problem and makes it difficult to care for the patient at home or in a general hospital. It is important to simplify the patient's environment and the demands made upon him. For the bed patient, a small night light may lessen the confusion and overactivity which often become aggravated at night. These patients may tolerate the usual medications poorly. This is particularly true of the barbiturates. Recently, a new group of tranquilizing medications has become available. Chlorpromazine and the Rauwolfia derivatives are particularly useful in controlling these symptoms. It has been reported also that a combination of Metrazol and niacin may lessen some of the organically derived mental symptoms. Some patients become obviously depressed, and this interferes with their proper functioning. In selected cases, specific psychiatric treatment is needed.

The emotional problems in the physically disabled or in the old age group are no different from the emotional problems of the normal person except that these patients have the additional physical burden. The disability may tend to accentuate or actually bring into the open preexisting problems. The progress of these patients can be seriously retarded by the psychic difficulties. Such problems must be recognized and dealt with early. It is a disservice to the patient to limit therapy to the presenting physical disability.

FAMILY AND COMMUNITY AID

Many of these patients are candidates for vocational aid. The early survey of the patient should include his vocational potentialities. Therapies should be pointed toward such goals. The assistance of social agencies can be useful in this area.

The patient's family can play an important part in both his early care and preparations for the future. One not only should discuss the patient's many problems and expectations with the family, but should give them an integral part to play in his treatment. The orientation which they may receive, as well as the actual knowledge of procedures, can be useful when the patient leaves the hospital. It also may aid the relatives in accepting the patient's limitations and in making realistic plans for the future. This also will encourage their taking the patient home and discourage their turning to custodial care. Most custodial institutions are already overtaxed.

There remain many patients for whom little can be offered. Here the physician must employ his art and humanity in the services of the family who must meet this major problem. He can and must give strength and guidance to those who can only wait and watch the progressive downhill course of their loved ones.

Even after the physician has applied these techniques, he is often defeated by the lack of interest and ignorance of many in our society. Job opportunities are few because of stringent rules. A large segment of useful manpower is wasted. During World War II, when there was a great need for workers, many of the restrictions were temporarily lifted, and in such cases the handicapped worker was able to prove himself capable of satisfactory performance with few concessions. It is indeed heartening to know that much is being done by both lay and professional groups to improve this situation.

Through research it is hoped that further advances will occur from both the preventive and therapeutic standpoints. Funds are more readily available to carry on research, but even more important, there is continuing and growing interest in such problems. We have made only a meager beginning, but it is hoped that this indicates what the future can and will hold.

SUMMARY

Some of the basic problems in the care of the chronic neurological patient are discussed. An attempt is made to show how the interplay of multiple factors will determine the success or failure in working with such patients.

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Biological Photographic Association

The annual meeting of the Biological Photographic Association, Inc., will be held August 27-31 in Rochester, N. Y. A number of papers will be presented dealing with advances in biological photography, and there will be a special award for the best paper presented at the meeting.

The Physician's Role in Rehabilitation of Patients with Chronic Disease

JACK B. MOHNEY, M. D.

Houston, Texas

MANY specific diseases can and do become chronic in their course. Chronic disease is prevalent both among pediatric and adult patients. It occurs more frequently in the older ages; however, we must not forget the prevalence of chronic disease in youth. The increasing age of our population, the interest in the handicapped person, the realization and demonstration of the work capacities of such persons have all focused our attention on rehabilitation. They have indicated the need for judicious management and planning for such patients.

DR. JACK B. MOHNEY *offers this paper from the Department of Physical Medicine and Rehabilitation, Baylor University College of Medicine and from the Southwestern Poliomyelitis Respiratory Center aided by an annual grant from the National Foundation for Infantile Paralysis, Inc.*

Since it is possible to maintain the individual patient's sense of integrity and desire for recovery, one is able to channel these factors into a single direct action which we have designated as "motivation." The only limitation to the patient's usefulness is dictated by the medical condition.

Medical knowledge alone is not sufficient to care successfully for chronic disease. One must broaden his therapeutic concepts through understanding of the psychological and social impact of disease on the patient and his family. The economic burden it presents must be evaluated and ways found to compensate for such factors. One must utilize all of the resources available in the community. Such resources are found frequently, but they must be directed wisely or more harm than good can result from their use.

The responsibility for the over-all management of the chronic patient is both the prerogative and pleasure of the physician. There is no doubt that competition for the busy physician's time is keen. Yet, the self-satisfaction obtained is the personal reward for the extra services provided. The realization that a life can be salvaged and its usefulness restored makes any program of rehabilitation worth while. This personal importance of rehabilitation to the patient remains the primary reason for its accomplishment, and it is independent of the undoubted economic importance.

"Rehabilitation," then, is a term which not only denotes physical restoration, but in its broadest sense includes the social, economic, psychological, and vocational restoration of the patient. Since these support and increase the recovery potential, it is a general aim to teach the patient to be useful to himself and others through development of his capabilities, even though his particular disease places severe limitation on physical activity. Too, a means of obtaining proper goals must enter the picture through vocational counseling and training. If the economic responsibility for self and others is crucial, as is so often the case, job placement must be the final step.

For motivation to have its desired full effect on the progress of the patient, goals must be determined. These must be practical in nature, and they should not be impossible to attain within the limitations set by the disease process. Goals always can be rearranged later to suit the unexpected progress of the patient. It is best to follow a gradual stepwise course. In this way, motivation is continuously and realistically implemented through achievement. The discouragement of fruitless attempts to obtain the impossible is avoided. Hence, a patient does far better on a regimen which falls within his day-to-day capabilities and yet additionally provides some reasonable and progressive challenge to him.

The family doctor always has been held in high esteem by his patients as a fatherly confidant, physician, and friend. Who then is better fitted for this work than the physician? Rehabilitation as total medical care is a legacy of medicine which benefits mankind. A program of rehabilitation truly fits into the physician's modern armamentarium as snugly as the advent of antibiotics.

The general practitioner is undoubtedly responsible for more patients at the onset of their disease than the medical specialist. The specialist on the other hand stands ready at all times to provide consultative services as well as to direct specialized therapy needed during the acute phase. Such services may be necessary for chronic care should it involve complicated procedures and facilities. The patient always should be returned to the referring physician

with specific recommendations for continued treatment and follow-up care.

Rehabilitation of a chronic patient is a long standing process. The desired results are not easily attained. Intercurrent problems may be a stumbling block as complicated as the underlying disease. Patience on the part of the physician is essential. He should instill in the patient and family this same attitude. Any progress made by the patient should be pointed out and used to acquaint him with his gradual improvement. Progress in rehabilitation of chronic disease patients is not as dramatic as that resulting from antibiotic treatment or surgical procedures. Both the patient and physician must learn to accept gradual improvement as a good indicator of satisfactory management.

The physician treating a patient with chronic disease must have in mind a comprehensive plan from the onset of disease which is tailored to the ultimate expectations for his patient. This plan need not be fully divulged to the patient nor completed to the last detail. Planning is necessary in the early phase of treatment to anticipate the preventable complications which can jeopardize recovery. Obviously, the physician must take into account the patient's personal resources, his family situation, his economic status, and his vocation. Any program requires the cooperation of the patient and consideration must be given to the needs and wishes of the patient at all times. Modification of the physician's over-all plan may be individualized as the patient makes progress. The patient's insight into his capabilites as well as his limitations determines the amount of his personal participation in the plannng.

It is important to realize that rehabilitation of the patient may not always come to the point of returning to employment. Sometimes, one must be content with lesser gains such as moderate independence at home. This in itself will create in the patient a feeling of self-satisfaction when he realizes he is not completely dependent upon others and that this may free someone in his family to become the provider.

PLAN OF MANAGEMENT

In reading the preceding paragraphs, a busy practitioner may question immediately his ability to provide the necessary time for such a detailed program as discussed here. He may believe he does not know enough about rehabilitation procedures to become enmeshed in this kind of medical planning. These doubts can be answered practically and simply. If you can plan for yourself, you can plan for others. There are a few basic principles which if followed or modified will assist one as he gains personal experience.

Chronic disease may be divided into two groups: those which produce deformity and those which do not. The former group includes such diseases as arthritis, poliomyelitis, and cerebrovascular accidents. Such diseases at the onset are best treated by strict bed rest. During this period and for the future, it is important to anticipate and therefore prevent the deformities. This can be done by careful positioning with braces, splints, and exercises which will maintain the range of motion in all joints. To prevent decubitus, frequent turning and good nursing care is needed. A pair of shoes, nailed to a board to position the feet, will prevent rotation at the hips and knee joints and above all prevent pes cavus, which will develop through the action of gravity and the weight of the bed linens on the feet. Hip flexion contractures and tightness in the lumbar area of the back can be minimized by positioning the legs. Any habitual position will become a fixed one if frequent changes in bed are not the general rule. Early sitting in the chair and standing, if practical, is important. These simple measures are not done by the physician, but must be ordered by him. He must see that they are properly and diligently carried out. He can employ either the nursing service or a physical therapist, or the treatment can become a family responsibility.

Deformities can prove to be the greatest handicap to overcome, as a patient progresses toward maximum functional return. Strong muscles, muscles reactivated or hypertrophied through muscular reeducation and strengthening, cannot function at maximum if tightness and deformity have developed. Certain kinds of tightness and deformity can be corrected, but much time and effort must go into the process which would be unnecessary if good preventive management had been carried out.

A patient should have all parts of the body and especially the joints regularly exercised except when it may endanger life. Exercise need not be given by a trained physical therapist. If one is available, by all means utilize her services; but if not, the physician can demonstrate simple exercises to the nurse or family which will be sufficient to maintain muscular strength and range of motion of all joints. This, too, will minimize pain due to tightness by preventing its development. A daily routine of care and exercise is, therefore, absolutely necessary.

The physician must consider the adequacy of his facilities to obtain best results for his patient. This consideration is especially pertinent as the patient recovers from the acute phase of a disease which becomes chronic and which imposes severe limitations on normal activity. Should he feel that the resources available are not adequate, he may refer the patient to a center for rehabilitation or to another physician

who can fulfill these requirements. It must be stated, however, that no physician or center for rehabilitation at a distance from the patient's home can attain complete rehabilitation. Generally, the patient is kept for a relatively short period of time while physical restoration and social and psychological evaluation are performed. If possible, some vocational counseling and training may be carried out. The follow-up treatment and care always must fall back on the referring physician and the resources of his home area. Physical restoration is much easier and the duration of hospitalization shortened if the patient has been managed correctly before entering the specialized phases of his rehabilitation.

If the physician feels that the facilities are adequate for the care and management of his patient, there is no reason for special referral. Economic and social factors inevitably should be considered since they enter into prolonged hospitalization and specialized care. When a patient can be safely sent home, the routine established in the hospital must be continued. The physician must prescribe and demonstrate home care procedures and instructions for maintaining the patient in good condition in the same manner as he prescribes medication. This is as much a part of his obligation to the patient and family as any other part of the medical program. He also must see that these instructions are competently executed by whatever means are at his disposal. Visiting nurses, interested members of the family, the minister, or a close friend may be called upon for assistance.

In general, these home instructions include (1) specific exercises; (2) positioning and turning in bed; (3) application of braces, splints, and assistive devices; (4) sitting time; (5) information on ambulation or weight bearing, for example, how long the patient may walk or stand; and (6) use of crutches and other apparatus. If these instructions are firmly fixed as daily routines, the physician needs only to see the patient in order to review and change instructions as often as warranted. Obviously, specifics depend upon the disease being treated and the patient's disability.

CONCLUSION

Rehabilitation of a patient suffering from residual effect of chronic disease or injury must be considered by both the family physician and the specialized practitioner as a definitive part of the total care of the patient. In this way, optimum results may be attained in achieving maximum return toward normal living.

The various specific procedures in rehabilitation are beyond the scope of this paper. Its emphasis has been upon the philosophy and general principles of care in restorative medicine.

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★ Coming Meetings

Texas Medical Association, Dallas, April 28-May 1, 1957. Dr. Milford O. Rouse, Dallas, Pres.; Mr. C. Lincoln Williston, 1801 North Lamar Blvd., Austin, Executive Secy.

American Medical Association, Chicago, June 11-15, 1956. Dr. Elmer Hess, Erie, Pa., Pres.; Dr. George F. Lull, 535 North Dearborn, Chicago 10, Secy.

National and Regional

American Academy of Allergy, Los Angeles, Feb. 4-6, 1957. Dr. Carl E. Arbesman, Buffalo, N. Y., Pres.; Dr. Francis C. Lowell, 65 E. Newton, Boston, Secy.

American Academy of Dermatology and Syphilology, Chicago, Dec. 8-13, 1956. Dr. George M. Lewis, N. Y., Pres.; Dr. James R. Webster, 55 E. Washington, Chicago 2, Secy.

American Academy of General Practice. Dr. John R. Fowler, Barre, Mass., Pres.; Mr. Mac F. Cahal, 406 W. 34th St., Kansas City 2, Executive Secy.

American Academy of Obstetrics and Gynecology, Chicago, Nov. 7-9, 1956. Dr. Ralph E. Campbell, Madison, Wisc., Pres.; Dr. C. Paul Hodgkinson, 116 S. Michigan Blvd., Chicago 3, Secy.

American Academy of Ophthalmology and Otolaryngology, Chicago, Oct. 14-19, 1956. Dr. A. C. Furstenberg, Ann Arbor, Pres.; Dr. W. L. Benedict, 100 First Ave. Bldg., Rochester, Minn., Secy.

American Academy of Pediatrics, New York, Oct. 8-11, 1956. Dr. Harry Bawkin, New York, Pres.; Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Secy.

American Association for Thoracic Surgery, Miami Beach, Fla., May 7-9, 1956. Dr. Richard H. Meade, Grand Rapids, Mich., Pres.; Dr. Paul C. Samson, 3959 Happy Valley Rd., Lafayette, Calif., Secy.

American Association of Genito-Urinary Surgeons, Oyster Harbor, Mass., June 4-6, 1956. Dr. Norris J. Heckel, Chicago, Pres.; Dr. John A. Taylor, 2 E. 45th St., New York 22, Secy.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons. Dr. Thaddeus L. Montgomery, Philadelphia, Pres.; Dr. F. R. Lock, Bowman Gray School, Winston-Salem, N. C., Secy.

American Cancer Society. Dr. Guy Aud, Louisville, Ky., Pres.; Dr. M. R. Runyon, 47 Beaver, New York, Executive Vice-Pres.

American College of Allergists. Dr. Lawrence J. Halpin, Cedar Rapids, Iowa, Pres.; Dr. Fred W. Wittich, 401 La Salle Medical Bldg., Minneapolis 2, Secy.

American College of Chest Physicians, Chicago, June 7-10, 1956. Dr. James H. Stygall, Indianapolis, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut, Chicago 11, Executive Secy.

American College of Physicians. Dr. George F. Strong, Vancouver 1, B. C., Pres.; Mr. E. R. Loveland, 4200 Pine, Philadelphia 4, Secy.

American College of Radiology, Chicago, Feb. 8-9, 1956. Dr. Wilbur Bailey, Los Angeles, Pres.; Mr. W. C. Stronach, 20 N. Wacker Dr., Chicago 6, Executive Secy.

American College of Surgeons, San Francisco, Oct. 8-12, 1956. Dr. Warren H. Cole, Chicago, Pres.; Dr. Michael L. Mason, 40 E. Erie, Chicago 11, Secy.

American Congress on Obstetrics and Gynecology. Dr. R. Gordon Douglas, 116 S. Michigan Ave., Chicago 3, Chm.

American Congress of Physical Medicine and Rehabilitation, Atlantic City, N. J., Sept. 10-14, 1956. Dr. Gordon M. Martin, Rochester, Minn., Pres.; Dr. Frances Baker, 1 Tilton Ave., San Mateo, Calif., Secy.

American Dermatological Association, Santa Barbara, Calif., June 18-21, 1956. Dr. V. Pardo-Castello, Havana, Cuba, Pres.; Dr. J. Lamar Callaway, Duke Hospital, Durham, N. C., Secy.

American Gastro-Enterological Association. Dr. Robert Elman, St. Louis, Pres.; Dr. H. Marvin Pollard, University Hospital, Ann Arbor, Mich., Secy.

American Gynecological Society, Washington, D. C., May 21-23, 1956. Dr. Isidor C. Rubin, New York, Pres.; Dr. John I. Brewer, 104 S. Michigan Ave., Chicago, Secy.

American Heart Association, Cincinnati, Oct. 27-31, 1956. Dr. Irvine H. Page, Cleveland, Pres.; Mr. Irving Hexter, 44 E. 23rd, New York 10, Secy.

American Hospital Association, Chicago, Sept. 17-20, 1956. Mr. Ray E. Brown, Chicago, Pres.; Dr. Edwin L. Crosby, 18 E. Division, Chicago, Executive Director.

American Laryngological, Rhinological, and Otological Society, Montreal, Canada, May 15-17, 1956. Dr. Dean M. Lierle, Iowa City, Pres.; Dr. C. S. Nash, 277 Alexander, Rochester 7, N. Y., Secy.

American Neurological Association, Atlantic City, N. J., June 18-20, 1956. Dr. J. M. Neilson, Los Angeles, Pres.; Dr. Charles Rupp, 133 S. 36th, Philadelphia 4, Secy.

American Ophthalmological Society, Hot Springs, Va., May 31-June 2, 1956. Dr. Alan C. Woods, Baltimore, Pres.; Dr. M. C. Wheeler, 30 W. 59th, New York 19, Secy.

American Orthopedic Association, Banff, Canada, June 20-23, 1956. Dr. Paul C. Colonna, Philadelphia 4, Pres.; Dr. George O. Eaton, 4 E. Madison, Baltimore 2, Secy.

American Pediatric Society, Buck Hill Falls, Pa., May 6-11, 1956. Dr. Allan M. Butler, Boston, Pres.; Dr. A. C. McGuinness, 237 Medical Laboratory, University of Pennsylvania, Philadelphia 46, Secy.

American Proctologic Society, Detroit, June 6-9, 1956. Dr. Stuart T. Ross, Hempstead, N. Y., Pres.; Dr. Karl Zimmerman, 3500 Fifth Ave., Pittsburgh 13, Secy.

American Psychiatric Association, Chicago, April 30-May 4, 1956. Dr. R. Finley Gayle, Richmond, Va., Pres.; Dr. William Malamud, 80 E. Concord, Boston 18, Secy.

American Public Health Association, Atlantic City, Nov. 12-16, 1956. Dr. Ira V. Hiscock, New Haven, Conn., Pres.; Dr. R. M. Atwater, 1790 Broadway, New York 19, Executive Secy.

American Society of Anesthesiologists, Kansas City, Mo., Oct. 8-12, 1956. Dr. Scott M. Smith, Salt Lake City, Pres.; Dr. J. E. Remlinger, Jr., 188 W. Randolph, Chicago, Secy.

American Society of Clinical Pathologists, Chicago, Oct. 7-12, 1956. Dr. Emma S. Moss, New Orleans, Pres.; Dr. Clyde G. Culbertson, 1040 W. Michigan, Indianapolis 6, Secy.

American Surgical Association. Dr. Alfred Blalock, Baltimore, Pres.; Dr. R. Kennedy Gilchrist, 59 East Madison, Chicago 3, Secy.

American Urological Association, Boston, May 28-31, 1956. Dr. George C. Prather, Brookline, Pres.; Dr. Samuel L. Raines, 188 S. Bellevue Blvd., Memphis, Tenn., Secy.

Association of American Physicians and Surgeons, Delegates Interim Meeting, Chicago, Oct. 19-20, 1956. Dr. Charles W. Pavey, Columbus, Ohio, Pres.; Mr. Harry E. Northam, 185 N. Wabash Ave., Chicago 1, Executive Secy.

International College of Surgeons, U. S. Chapter. Dr. Arnold S. Jackson, Madison, Wisc., Pres.; Dr. Karl Meyer, 1516 Lake Shore Dr., Chicago, Secy.

National Tuberculosis Association, New York, May 21-25, 1956. Dr. Edward T. Fagan, Brooklyn, Pres.; Mrs. Morrell DeReign, 1790 Broadway, New York 19, Secy.

Radiological Society of North America. Dr. Tom B. Bond, Fort Worth, Pres.; Dr. D. S. Childs, 713 E. Genesee, Syracuse 2, N. Y., Secy.

Southern Medical Association, Washington, D. C., Nov. 12-15, 1956. Dr. Raymond McKenzie, Baltimore, Pres.; Mr. V. O. Foster, 1020 Empire Bldg., Birmingham 3, Secy.

Southern Psychiatric Association. Dr. John D. Trawick, Louisville, Pres.; Dr. Joseph L. Knapp, 210 N. Westmoreland, Dallas, Secy.

Southern Surgical Association. Dr. Carrington Williams, Richmond, Pres.; Dr. George Finney, 2947 St. Paul, Baltimore, Secy.

Southwest Allergy Forum. Dr. Henry D. Ogden, New Orleans, Pres.; Dr. Stanley Cohen, 1441 Delachaise, New Orleans, Secy.

Southwest Regional Cancer Conference. Dr. John L. Wallace, Box 1719, Fort Worth, Chm.

Southwestern Medical Association. Dr. John A. Dettweiler, Albuquerque, N. Mex., Pres.; Dr. Russell L. Deter, El Paso, Secy.

Southwestern Surgical Congress. Dr. C. R. Rountree, Oklahoma City, Pres.; Dr. C. M. O'Leary, 207 Plaza Court Bldg., Oklahoma City, Secy.

Tri-State Medical Society. Dr. William B. Harrell, Texarkana, Pres.; Dr. Karlton Kemp, 408 Hazel, Texarkana, Ark., Secy.

United States-Mexico Border Public Health Association. Mr. Richard F. Poston, San Francisco, Pres.; Dr. Sidney B. Clark, 314 U. S. Court House, El Paso, Secy.

State

Private Clinics and Hospitals Association of Texas, Dallas, December, 1956. Dr. J. P. Anderson, Brady, Pres.; Mr. C. H. Rugeley, Wharton, Secy.

Texas Academy of General Practice, Houston, Sept. 16-19, 1956. Dr. J. D. Murphy, Fort Worth, Pres.; Mr. Donald C. Jackson, 308 W. 15th, Austin, Executive Secy.

Texas Academy of Internal Medicine, Dallas, December, 1956. Dr. DeWitt Neighbors, Fort Worth, Pres.; Dr. Hugo Engelhardt, 1216 Main, Houston, Secy. Meetings restricted to members.

Texas Air-Medics Association. Dr. W. A. Ostendorf, Fort Worth, Pres.; Dr. C. F. Miller, P. O. Box 1338, Waco, Secy.

Texas Association of Blood Banks. Dr. O. J. Wollenman, Jr., Fort Worth, Pres.; Miss Marjorie Saunders, 3500 Gaston Ave., Dallas, Secy.

Texas Association of Obstetricians and Gynecologists. Dr. John Delany, Galveston, Pres.; Dr. Oran V. Prejean, 4317 Oak Lawn, Dallas, Secy.

Texas Chapter, American College of Chest Physicians. Dr. Walter C. Brown, Corpus Christi, Pres.; Dr. L. M. Shefts, 510 Moore Bldg., San Antonio, Secy.

Texas Club of Internists. Dr. Hatch Cummings, Houston, Pres.; Dr. L. C. Carter, 2600 Procter, Port Arthur, Secy.

Texas Dermatological Society. Dr. Thomas L. Shields, Fort Worth, Pres.; Dr. E. N. Walsh, 1310 Medical Arts Bldg., Fort Worth, Secy.

Texas Diabetes Association. Dr. Edwin L. Rippy, Dallas, Pres.; Dr. Richard E. Nitschke, 1702 Nix Professional Building, San Antonio, Secy.

Texas Division, American Cancer Society. Mr. Leonard M. Gundtrson, Amarillo, Pres.; Mr. Curt W. Reimann, 1609 Colorado, Austin, Executive Director.

Texas Geriatrics Society. Dr. Donald G. Kilgore, Dallas, Pres.; Dr. J. O. S. Holt, Jr., 3707 Gaston Ave., Dallas, Secy.

Texas Heart Association. Dr. Kleberg Eckhardt, Corpus Christi, Pres.; Mr. Edgar M. Brown, 404 Jesse H. Jones Library Bldg., Texas Medical Center, Houston 25, Executive Director.

Texas Hospital Association. Mr. Boone Powell, Dallas, Pres.; Mrs. Ruth Barnhart, 2210 Main, Dallas, Secy.

Texas Industrial Medical Association. Dr. Virgil M. Payne, Jr., Dallas, Pres.; Dr. Robert A. Wise, P. O. Box 2180, Houston, Secy.

Texas Neuropsychiatric Association. Dr. John L. Otto, Galveston, Pres.; Dr. Clarence S. Hoekstra, 2600 Wellborn, Dallas, Secy.

Texas Orthopedic Association. Dr. John J. Hinchey, San Antonio, Pres.; Dr. Margaret Watkins, 3629 Fairmount, Dallas, Secy.

Texas Pediatric Society, Oct. 19-20, 1956. Dr. R. J. Blattner, Houston, Pres.; Dr. James N. Walker, 5216 W. Freeway, Fort Worth, Secy.

Texas Proctologic Society, Houston, February, 1957. Dr. Harry B. Burr, Houston, Pres.; Dr. C. P. Hardwicke, 920 E. 32nd, Austin, Secy.

Texas Public Health Association. J. N. Murphy, Jr., Austin, Pres.; Mr. H. E. Drumwright, City Health Department, Dallas, Executive Secy.

Texas Radiological Society, Corpus Christi, Jan. 18-19, 1957. Dr. J. R. Riley, Corpus Christi, Pres.; Dr. J. E. Miller, 6407 Forest Lane, Dallas, Secy.

Texas Traumatic Surgical Society. Dr. J. H. Dorman, Dallas, Pres.; Dr. W. D. Marrs, 306 Broadway, Fort Worth, Secy.

Texas Rheumatism Association. Dr. Frank F. Parrish, Jr., Houston, Pres.; Dr. Warren W. Moorman, 901 W. Leuda, Fort Worth, Secy.

Texas Society for Mental Health. Dr. Abe Hauser, Houston, Pres.; Mr. John Lane, 2510 San Antonio, Austin, Acting Executive Secy.

Texas Society of Anesthesiologists. Dr. Charles R. Allen, Galveston, Pres.; Dr. Randle J. Brady, 3317 Binz, Houston, Secy.

Texas Society of Gastroenterologists and Proctologists. Dr. W. T. Arnold, Houston, Pres.; Dr. O. P. Griffin, 1101 Medical Arts Bldg., Fort Worth, Secy.

Texas Society of Ophthalmology and Otolaryngology. Dr. A. E. Jackson, Fort Worth, Pres.; Dr. Gatlin Mitchell, 1604 Medical Arts Bldg., Fort Worth, Secy.

Texas Society of Pathologists. Dr. Sidney W. Bohls, Austin, Pres.; Dr. M. H. Grossman, St. Paul Hospital, Dallas, Secy.

Texas Surgical Society. Dr. P. I. Nixon, Sr., San Antonio, Pres.; Dr. Albert W. Hartman, 414 Navarro, San Antonio 5, Secy.

Texas Tuberculosis Association. Dr. Howard T. Barkley, Houston, Pres.; Mrs. J. V. Cooper, Waxahachie, Secy.
Texas Urological Society. Dr. A. J. Ashmore, Corpus Christi, Pres.; Dr. Rex Carter, 1709 San Antonio, Austin, Secy.

District

First District Society. Dr. E. W. Schmidt, Pecos, Pres.; Dr. John Dunn, Pecos, Secy.
Second District Society. Dr. T. W. Novak, Odessa, Pres.; Dr. Willis T. Carson, 506 North Allegheny, Odessa, Secy.
Third District Society. Dr. Marvin C. Schlecte, Plainview, Pres.; Dr. William Klingensmith, 706 Monroe St., Amarillo, Secy.
Fourth District Society, San Angelo, 1956. Dr. Joe B. Stephens, Bangs, Pres.; Dr. S. H. Martin, 115 S. Park, San Angelo, Secy.
Fifth and Sixth Districts Society, Corpus Christi, July 6-7, 1956. Dr. E. Jackson Giles, Corpus Christi, Pres.; Dr. Maurice Nast, 1126 3rd, Corpus Christi, Secy.
Seventh District Society. Dr. John R. Rainey, Jr., Austin, Pres.; Dr. Leslie C. Colwell, 1410 Brazos, Austin, Secy.
Eighth District Society, Brazoria, 1956. Dr. Carlos Fuste, Alvin, Pres.; Dr. John Childers, Univ. of Texas Medical Branch, Galveston, Secy.
Ninth District Society. Dr. Joseph T. Dabney, Livingston, Pres.; Dr. Lyman C. Blair, 1212 Rothwell, Houston, Secy.
Tenth District Society. Dr. Taylor Walker, Beaumont, Pres.; Dr. Alan E. Hubner, 590 Center, Beaumont, Secy.
Eleventh District Society. Dr. Royal Kay, Palestine, Pres.; Dr. Hugh F. Rives, Jacksonville, Secy.
Twelfth District Society, Waco, July 10, 1956. Dr. R. Henry Harrison, Bryan, Pres.; Dr. W. M. Avent, 1716 Colcord, Waco, Secy.
Thirteenth District Society. Dr. P. M. Kuykendall, Ranger, Pres.; Dr. Robert D. Moreton, 815 Medical Arts Bldg., Fort Worth, Secy.
Fifteenth District Society, Marshall, 1956. Dr. James Harris, Marshall, Pres.; Dr. L. E. Rutledge, Daingerfield, Secy.

Clinics

Dallas Southern Clinical Society. Dr. Alvin Baldwin, Jr., Dallas, Pres.; Miss Helga Boyd, Medical Arts Bldg., Dallas 1, Executive Secy.
International Medical Assembly of Southwest Texas. Dr. John C. Parsons, 1125 Nix Professional Bldg., San Antonio, Secy.
New Orleans Graduate Medical Assembly, March 11-14, 1957. Dr. Eugene H. Countiss, New Orleans, Pres.; Dr. Maurice E. St. Martin, 626 Maison Blanche Bldg., New Orleans 16, Secy.
North Texas-Southern Oklahoma Fall Clinical Conference, Wichita Falls, Sept. 8, 1956. Dr. J. L. Jackson, III, Wichita Falls, Chm.
Oklahoma City Clinical Society Conference, Oklahoma City, Oct. 22-25, 1956. Miss Alma F. O'Donnell, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secy.
Postgraduate Medical Assembly of South Texas, Houston, July 16-18, 1956. Dr. C. Forrest Jorns, 5644 Lawndale, Houston, Secy.
State Tumor Conference. Dr. Bailey R. Collins, 925½ Scott, Wichita Falls, Director.

Board Examinations

Texas State Board of Examiners in Basic Sciences. Mrs. Betty Ratcliff, 407 Perry-Brooks Bldg., Austin, Chief Clerk.
Texas State Board of Medical Examiners. Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth, Secy.

AMERICAN RADIUM SOCIETY MEETS IN HOUSTON

A medical analysis of current efforts to control and cure cancer was the aim of the members of the American Radium Society meeting in Houston April 9-11. Texas physicians presenting papers at the scientific sessions of the meeting were Drs. Gilbert H. Fletcher, R. Kenneth Loeffler, Harold Tivey, and Vincent P. Collins, all of Houston, and Dr. Charles L. Martin, Dallas. R. J. Shalek, Ph.D., Houston, a radiological physicist, also was on the program.

The scientific highlight of the meeting, the Janeway Lecture, was given by Dr. Lloyd F. Craver, chief of medicine at the Memorial Center, New York. His topic was "Reflections on Malignant Lymphomas." The Janeway Lecture is an annual discussion named in honor of the late Dr. H. H. Janeway, medical pioneer in the use of ionizing radiations in treatment.

Two panel discussions were held, one on "Choice and Timing of Palliative Procedure for Advanced Breast Carcinoma," and one on "Thyroid Cancer." Later in the meeting, round-table discussions were held at the University of Texas M. D. Anderson Hospital and Tumor Institute, after which the doctors participating were escorted on a tour of the hospital.

Officers elected at the meeting are Dr. Norman A. McCormick, Windsor, Ontario, president; Dr. Douglas J. Roberts, Hartford, Conn., president-elect; Dr. Franklin L. Payne, Philadelphia, Pa., first vice-president; Dr. George W. Waterman, Providence, R. I., second vice-president; Dr. Theodore R. Miller, New York City, secretary; and Dr. Jesshill Love, Louisville, Ky., treasurer.

POSTGRADUATE COURSES

Orthopedics, El Paso, May 20—The University of Texas Postgraduate School of Medicine, El Paso Division, offers this course. It includes lectures on treatment of fractures of the os calcis, femur, and ankle; fractures in children and colles fractures; surgery practicable in cerebral palsy, and other related topics. Tuition is $10, and application blanks are available from the Postgraduate School of Medicine, Texas Medical Center, Houston 25.

Occupational Medicine, New York, September 10-November 2—The Post-Graduate Medical School of New York University–Bellevue Medical Center will offer this full-time course. Tuition will be $350, and complete details are available from the dean, New York 16.

Texas Tuberculosis Association And Texas Trudeau Society

The Texas Tuberculosis Association and the Texas Trudeau Society met jointly in Midland early in April. Guest speakers were Dr. H. Stuart Willis, Chapel Hill, N. C., president of the American Trudeau Society, and A. Ryrie Koch, New York, director of the rehabilitation division of the National Tuberculosis Association.

New officers of the association are Dr. Howard T. Barkley, Houston, president; Dr. Daniel E. Jenkins, Houston, first vice-president; Mr. Joe H. Sorrels, College Station, second vice-president; Mrs. J. V. Cooper, Waxahachie, secretary; Dr. Z. T. Scott, Austin, treasurer; and Dr. Robert B. Morrison, Austin, assistant treasurer.

Dr. Robert J. Hanks, Waco, was elected president of the Texas Trudeau Society. Other officers are Dr. James O. McBride, Fort Worth, vice-president, and Dr. Richard F. Allison, Sanatorium, secretary.

Personals

Dr. F. J. L. Blasingame, Wharton, has been appointed to the board of directors of the United States Committee of the World Medical Association.

Dr. G. O. Wellman, Texas City, is a new diplomate of the American Board of Surgery.

Dr. Harriet M. Felton, Galveston, delivered a paper April 22 before the Massachusetts Chapter, American Academy of General Practice, Boston.

Dr. George R. Herrmann, Galveston, participated in a meeting in February of the Minnesota Heart Association in St. Paul.

Dr. Denton A. Cooley, Houston, has been named one of the 10 outstanding young men of 1955 by the United

States Junior Chamber of Commerce. He was selected for his original experiments and investigations in cardiovascular surgery.

Dr. John G. Compton, Jr., Waxahachie, is the new Ellis County health officer. He will succeed *Dr. W. P. Ball,* who resigned to enter military service.

Dr. Samuel J. Feducia has been appointed chief surgeon of the Texas and Pacific Railroad Hospital in Marshall.

Dr. Tom Oliver has been elected a school trustee in Waco, and *Dr. Neill O. Simpson* a city commissioner in the same city.

Dr. Louis E. Gibson will serve as president of the Corsicana Chamber of Commerce for 1956.

Dr. Joe Lee Cornelison has been named "Young Man of the Year" by the San Angelo Junior Chamber of Commerce.

Dr. A. E. Starnes and the late *Dr. H. L. D. Jenkins* were presented fifty-year awards for their service by the Hughes Springs Masonic Lodge in January.

The mother of *Dr. William H. Daly, Killeen,* died January 31 in Knoxville, Tenn.

Dr. Sam Greer and *Dr. Georgeanna Greer* are parents of a girl born early in March in San Antonio.

Dr. John G. Young, Dallas, spoke at a symposium on office procedures and clinical medicine at a recent meeting of the Illinois Academy of General Practice in Peoria, Ill.

Drs. Robert D. Moreton, Fort Worth; *Morris J. Fogelman* and *Carleton B. Chapman,* Dallas; and *John H. Moyer,* Houston, were guest speakers at the seventy-fourth annual session of the New Mexico Medical Society held in Roswell early in May.

Dr. Vernon Kinross-Wright, Houston, spoke at the annual meeting in May of the State Medical Society of Wisconsin in Milwaukee.

Dr. Henry A. Holle, Austin, opened the recent convention of the Society of American Bacteriologists in Houston with a special lecture on microbiology in Texas.

NUTRITIONAL HEALTH SYMPOSIUM

Two Texans, Otto A. Bessey, Ph.D., Galveston, and Dr. E. L. Pratt, Dallas, will be guest speakers at a symposium on the relation of proteins and amino acids to nutritional health, which will be presented at the University of California, Los Angeles, May 21. It is to be sponsored by the Los Angeles County Medical Association, the University's School of Medicine, and the Council on Foods and Nutrition of the American Medical Association.

Residents' Tax Status Clarified

The Federal Insurance Contributions Act provides that for employment tax purposes, resident physicians are classified as hospital employees, while interns are considered as students. According to the act, it is immaterial whether a doctor serves his internship and residency in the same hospital or in different hospitals.

CANCER RESEARCH SYMPOSIUM

The Tenth Annual Symposium on Fundamental Cancer Research was held late in March at the University of Texas M. D. Anderson Hospital and Tumor Institute in Houston. Dr. Joseph C. Aub, professor of medical research at Harvard Medical School and director of medical laboratories at the Collis P. Huntington Memorial Hospital, Cambridge, Mass., received the Bertner Foundation Award for his contributions in the field of cancer research. This award is named in honor of the late Dr. E. W. Bertner, first acting director of the M. D. Anderson Hospital and the first president of the Texas Medical Center.

As a part of the symposium, members of national research groups served as consultants on a panel discussion of research progress. Reports were presented by members of the hospital's staff, and the panel of consultants then discussed each report. Panelists were Frederick S. Philips, Ph.D., American Cancer Society; J. Murray Luck, Ph.D., American Society of Biological Chemists; Dr. Cornelius P. Rhoads, New York, National Research Council; T. S. Painter, Ph.D., Austin, National Academy of Science; Dr. Murray Copeland, Cancer Control Committee of the National Cancer Institute; and C. W. Shilling, Atomic Energy Commission, Division of Biology and Medicine.

Texas Student Wins Award

Wayne Marvin Meyers of Baylor University College of Medicine, Houston, was a second-prize winner in the annual Schering Award competitions. His paper was on blood transfusion reactions.

Rocky Mountain Cancer Conference

Dr. G. V. Brindley, Temple, President of the American Cancer Society, will be a special guest speaker at the tenth annual Rocky Mountain Cancer Conference July 11 and 12 in Denver. Other guests will be Dr. Lauren V. Ackerman, St. Louis; Dr. Charles L. Dunham, Washington, D. C.; Dr. Charles Huggins, Chicago; Dr. Dwight H. Murray, President-Elect of the American Medical Association, Napa, Calif.; Dr. Eugene P. Pendergrass, Philadelphia; Dr. Grant H. Sanger, New York City; and Dr. John R. Schenken, Omaha.

The two-day program will consist of two symposiums, one on cancer of the breast and one on lymphomas and leukemias; two round-table luncheon discussions; and six scientific papers. Topics for the papers will be "Evaluation of Triple Biopsy for Breast Carcinoma," "The Pathological Findings in Leukemia in Children Based on 49 Necropsies," "Early Small Lesions of the Rectum," "Cancer of the Prostate," "Cancer of the Thyroid: Its Pathologic Evaluation and Treatment," and "The Impact of Atomic Energy Activities on Medicine and Medical Research."

In addition to participating in one of the panel discussions, Dr. Murray will be the speaker at a banquet Wednesday evening, July 11.

POSTGRADUATE MEDICAL ASSEMBLY

The twentieth annual Postgraduate Medical Assembly was held at Prairie View Agricultural and Mechanical College early in March. Four out-of-state physicians were guest speakers; they were Dr. Roderick W. Brown, Pittsburgh; Dr. Roland B. Scott, Washington, D. C.; Dr. Harold W. Thatcher, Chicago; and Dr. W. A. Younge, St. Louis.

The program included scientific presentations dealing with tuberculosis, syphilis, internal medicine, pediatrics, obstetrics, school health, psychosomatic medicine and neuropathology.

Salk Vaccine Report

Dr. Hart E. Van Riper, medical director of the National Foundation for Infantile Paralysis, wrote recently to Dr. J. Layton Cochran, Past President of the Texas Medical Association, to thank the members of the Association for their "excellent cooperation with the state health department and the Foundation in the successful conduct of the poliomyelitis vaccine demonstration program in Texas during 1955." He went on to say that 443,920 Texas children received at least one inoculation; 281,050 received two inoculations; and 18,799 received a third inoculation up to October 1, 1955.

At the national level, in a recent report to physicians, Basil O'Conner, president of the foundation, stated, "Paralytic poliomyelitis in the United States can be cut in half in the epidemic period in 1956 and can be reduced to a negligible amount in 1957 if there is a coordinated effort during the remaining months of 1956 by all concerned: the public, the public health services, the doctors and the manufacturers. It may be properly assumed that such coordination can be had. . . .

"The manufacturers of Salk vaccine estimate that between March 1, 1956, and December 31, 1956, they will produce 203 million cubic centimeters of vaccine. . . . The intelligent use in 1956 of the vaccine estimated to be available during that year would indicate that cases of paralytic poliomyelitis in the United States in 1957 should be very few."

Symposium on Host-Parasite Relationships

A symposium, "Current Trends in the Study of Host-Parasite Relationships as Observed in Living Cells," was sponsored by the James W. McLaughlin Fellowship Program late in April at the University of Texas Medical Branch, Galveston. Speakers included Edward W. Dempsey, Ph.D., St. Louis; Carl E. Georgi, Ph.D., Lincoln, Neb.; Drs. Jerome T. Syverton and Robert A. Good, Minneapolis; John H. Hanks, Ph.D., Boston; Dr. Renato Dulbecco, Pasadena, Calif.; Rene J. Dubos, Ph.D., New York; Dr. Stuart Mudd and Manesseh G. Sevag, Ph.D., Philadelphia; and Charles M. Pomerat, Ph.D., Galveston.

Student AMA Convention May 4-6

The sixth annual Student American Medical Association met in Chicago May 4-6. The biggest technical exhibit ever displayed for this group was open; at the House of Delegates sessions the first day, reports from the Medical Education and Graduate Training Committees were presented; there was a panel discussion covering the doctor's relations with the press, and a reception and party sponsored by Abbott Laboratories.

West Texas Obstetrical And Gynecological Society

The West Texas Obstetrical and Gynecological Society, which was organized in March, 1954, will have its fourth meeting in Lubbock December 6, 1956. Membership now totals 35, and includes physicians practicing obstetrics and gynecology in the West Texas cities of Abilene, Amarillo, Big Spring, Lubbock, Midland, Odessa, Plainview, Stamford, and San Angelo.

Physical Medicine and Chest Contests Now Open

To stimulate interest in the field of physical medicine and rehabilitation, the American Congress of Physical Medicine and Rehabilitation will award annually a prize for an essay on any subject relating to this field. The contest, although open to anyone, is primarily directed to medical students, interns, residents, graduate students in the preclinical sciences, and graduate students in physical medicine and rehabilitation. Manuscripts must be in the office of the Congress' headquarters, 30 North Michigan Ave., Chicago 2, not later than June 1. Manuscripts, submitted in duplicate, must not exceed 3,000 words. A $200 cash award and a gold medal will go to the winner.

The Council on Undergraduate Medical Education of the American College of Chest Physicians offers three cash awards to be given annually for the best contributions prepared by undergraduate medical students on any phase in the diagnosis and treatment of chest diseases. First prize will consist of a cash award of $250; second prize will be $100; and third prize, $50. Application forms may be obtained by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11.

Indiana Doctor Boosts Stern Attendance Rules

Dr. W. U. Kennedy, president of the Indiana State Medical Association, wrote in favor of attendance rules for county medical societies in a recent "President's Page" in the *Journal of the Indiana State Medical Association.* His article said, in part:

> The medical profession has been described as being divided as Gaul was, in three parts. One—the active member, always willing to help in every worthwhile action. . . . Two—the complacent member, who is theoretically enlisted in the activities of the organized bodies, but actually does nothing more than occasionally attend a meeting. Third—a minority, who simply don't care for anything that does not give them a personal profit.
>
> . . . The third class ought to be eliminated from our efforts and our councils. Why should we hesitate to dismiss them by attendance rules, fair but sternly administered? I am not a believer in the desirability of having every medical man in the society. Let it be a privilege gained by effort and participation.

VOCATIONAL NURSE EXAMINATION

The next state board examination for vocational nurses will be August 20; applications to take the examination should be in the hands of the State Board of Vocational Nurse Examiners by July 20.

With the January 30 examination, licenses have been issued to 16,511 vocational nurses in Texas since the law went into effect September 7, 1951. Of this figure 13,5[illegible] existing nurses obtained licenses by waiver, 29 by reciprocity and the remainder by examination after completion of [illegible] months of required training. More than 150 nurses licensed by waiver subsequently have enrolled in approved programs and obtained their licenses by examination.

The Board has announced that 169 graduates of state approved training programs passed the most recent examination. The Board also announced the accreditation of the Bucy-Glenn School of Vocational Nursing, Linden.

The Doctor's Office

The ancient Greek and Roman doctors practiced their craft while wandering, and it was not until late in antiquity that we find patients being treated at various cult centers. The pictorial account on a Greek vase, which is said to have been produced before Hippocrates, shows the physician seated in the center, bleeding a patient, while standing all around him are patients with bandaged arms and legs. An old crippled dwarf stands holding a hare so that he may be admitted as soon as possible.

In Greece the doctor's house, which was called Iatreion, consisted of an office, one or more sick rooms for patients that could not be moved, an operating room, a house dispensary, and rooms where the doctor's family lived. This fifth century Iatreion was similar to our modern sanatoriums.

The location of a doctor's office was chosen so that it would be protected against the wind and would be well lighted.

The doctor's "tool-kit" consisted of wash-basins, ointment boxes, medicine containers, small bowls, sponges, all sorts of bandages and dressings, scalpels, various knives, scissors, dental forceps, enema syringes, and finally cupping utensils. In all the pictural accounts few books and scrolls are lying around.

In southern Germany persons who pulled teeth, let blood, removed corns, and administered enemas were called "barber surgeons." Their earliest form of the surgical workshop was the old bathhouse.

The manner in which the early physicians arranged and furnished their offices enables one to see the status of the physician and the state of medical science and hygiene. In the sixteenth century we find not only the wound-surgeons who practiced all branches of surgery, but the oculist whose office contained a large window and a very elaborate door. The quack offices, particularly during the eighteenth century, were arranged and furnished like an apothecary's shop. During this period we find in most offices books and chemical apparatus.

At the beginning of the nineteenth century medical science was making rapid progress, but the character and appearance of the doctor's office was little changed. Perhaps, physicians lacked the means to maintain waiting rooms and proper office facilities. A painting by H. Romberg (1820-1869) portrays a doctor's office; the furniture is good and there is a fine carpet on the floor, but the most interesting piece of furniture is a wash-stand, which appears for the first time. The Swiss painter Albert Anker (1831-1910) portrayed the village doctor—he was probably dealing with a rural quack—whom many people consulted, each awaiting his turn in the doctor's presence. "A Mother's Worry" by H. Von Habermann in 1886 shows the use of auscultation in an office consultation for the first time; on the floor we see an animal skin, a large sofa, a kerosene lamp, a box of cigars, and a few books. The picture indicates that the office had not advanced in keeping with the demands of hygiene and efficiency. Not until the turn of the twentieth century do we find efficiency and sanitation in an office.

Articles available in the Memorial Library of the Texas Medical Association relating to the history, planning, and building of doctors' offices are as follows:

History

Fischer, Alfons: *The Doctor's Office from the Sixteenth to the Nineteenth Centuries,* Ciba Symposia 1:275-287 (Dec.) 1939.

Noll, Rudolph: *The Iatreion,* Ciba Symposia 1:266-269 (Dec.) 1939.

Wehrli, G. A.: *The Barber-Surgeon's Shop,* Ciba Symposia 1:270-274 (Dec.) 1939.

Planning

American Medical Association, Ed.: *A Planning Guide for Establishing Medical Practice Units,* published through a grant from the Sears-Roebuck Foundation, 1955.

Arnold, Michael, and Ware, John: *The General Practitioner's Premises,* Practitioner 170:582-593 (June) 1953.

Clark, LeMon: *Six Common Mistakes in Office Planning,* Medical Economics 30:135-140 (Aug.) 1953.

Cronin, John W.: *How to Plan Your Future Office—General Practice,* J. Student A.M.A. 4:32-33 (Nov.) 1955.

Cronin, John W.: *How to Plan Your Future Office—Orthopedics,* J. Student A.M.A. 4:37 (Dec.) 1956.

Cronin, John W.: *How to Plan Your Future Office—Otorhinolaryngology,* J. Student A.M.A. 5:57 (March) 1956.

Cronin, John W.: *How to Plan Your Future Office—Pediatrics,* J. Student A.M.A. 5:25 (Jan.) 1956.

Fooner, Michael, and Schur, Robert: *If You Hire a Contractor,* Medical Economics 31:135-139, 271 (Nov.) 1953.

Geerlings, Gerald K.: *A Flexible Office Will Save You Time-Steps-Space-Money,* Medical Economics 31:104-115 (Nov.) 1953.

Geerlings, Gerald K.: *Need More Storage Space?* Medical Economics 31:104-111 (Oct.) 1953.

Hoffman, Lois: *Indoor-Outdoor Office, Medical Economics* 32:110-117 (Nov.) 1954.

Hoffman, Lois: *Prize-Winning Designs for Rural Offices,* Medical Economics 31:118-129 (Feb.) 1954.

Hoffman, Lois: *This Office Can Grow,* Medical Economics 32:104-111 (July) 1955.

Kramer, Allen, and Kramer, Edwin: *A Trio of Plans for a Five-Doctor Building,* Medical Economics 30:104-111 (May) 1953.

McDonald, William: *Big Clinic Is Source of Ideas for a Small Office,* Medical Economics 32:101-105 (Feb.) 1955.

Menges, Roger: *No Bottleneck in This Four-Man Office,* Medical Economics 30:104-113 (Sept.) 1953.

Menges, Roger: *Six Idea-Producing Offices,* Medical Economics 30:114-127 (June) 1953.

Owens, Thomas: *They Built an Office—and a Nest Egg, Too,* Medical Economics 32:97-102 (March) 1955.

Owens, Thomas: *Need a Second Office,* Medical Economics 32:253-262 (Oct.) 1955.

Office in the Home, Medical Economics 32:122-123 (Oct.) 1955.

Plowright, Oliver: *Equipment in the Doctor's Surgery,* Practitioner 170:594-607 (June) 1953.

Robertson, Howard: *The Doctor's Surgery,* Practitioner 170:574-581 (June) 1953.

Runnels, David B.: *Careful Planning Creates Modern Physician's Office,* G.P. 8:95-97 (Oct.) 1953.

Scherck, Henffiry J.: *What Do I Need to Set Up Practice? What Will It Cost?* J. Student, A.M.A. 1:33-42 (May) 1952.

Thal, Nelson E.: *Easy Upkeep Was the Aim in This Office,* Medical Economics 31:144-147 (April) 1954.

Heat and Ventilation

Hoffman, Lois: *Pure Air for Your Office,* Medical Economics 32:109-114 (June) 1955.

How to Catch a Breeze, Medical Economics 30:122-123 (July) 1953.

Perrin, E. N.: *Thirteen Hints on Heating,* Medical Economics 32:212-225 (Oct.) 1954.

Wright, Henry: *How to Add Year-Round Air Conditioning to Your Present Heating System,* Medical Economics 32:144-152 (March) 1955.

Location

Cameron, Don: *Choosing a Location: The Basic Factor,* Medical Economics 31:116-118, 253-255 (Nov.) 1953.

Coniston, Ralph: *Don't Take Chances with Your Property Title,* Medical Economics 32:231-242 (June) 1955.

Haskell, Eric: *No Parking Problem Here,* Medical Economics 32:132-134 (June) 1955.

Lowell, Paul: *Choosing a Location: The Office Site,* Medical Economics, 32:181-195 (Oct.) 1954.

Miller, Charles: *How I Went About Buying a Lot,* Medical Economics 32:215-225 (Nov.) 1954.

CONTRIBUTIONS TO THE LIBRARY

Grateful acknowledgment is made by the Texas Medical Association Memorial Library for the following recent gifts:

Dr. John V. Connolly, Ingleside, 2 books.

Creighton University School of Medicine Library, Omaha, Neb., 2 journals.

Elks Tuberculosis Library, Los Angeles, Calif., 1 journal.

Harley French Medical Library, Grand Forks, N. D., 4 journals.

Hennepin County Medical Society Library, Minneapolis, Minn., 28 journals.

Dr. J. E. Johnson. Austin, 57 journals, 33 reprints, and 1 book.

Dr. S. N. Key, Jr., Austin, 12 journals.

Miss Zazle Kirkpatrick, Austin, 4 books.

Lane Medical Library, San Francisco, Calif., 8 journals.

Mrs. H. J. Lynn, Austin, 19 journals and 3 books.

Oak Ridge Institute of Nuclear Studies, Inc., Oak Ridge, Tenn., 2 journals.

Ortho Research Foundation, Raritan, N. J., 20 journals.

Dr. N. L. Schiller, Austin, 33 journals and 6 reprints.

E. R. Squibb and Company, New York, 1 book.

Veterans Administration Center, Wadsworth, Kan., 13 journals.

Worcester State Hospital, Worcester, Mass., 2 bound volumes.

★ Motion Pictures

A Place to Live

16 mm., sound, black and white, 24 minutes.

The film concerns the problems of our aged. The technical quality is excellent, and the problems encountered by a middle income family when an aged father lives with his married daughter and her family are illustrated. The standards of care that should be provided in homes for the aging are pointed out and the shortage of adequate homes is attributed to public indifference.

Adventure in Maturity

16 mm., sound, color, 22 minutes.

The story concerns a woman who has resigned herself to a rocking-chair existence. At the encouragement of an older woman friend, she is stimulated to seek out the opportunities for older people in the community. The film is excellent for programs on geriatrics, and suitable for mental health programs.

NEW BOOKS RECEIVED

Association for Research and Mental Disease: *Neurology and Psychiatry in Childhood,* Baltimore, Williams and Wilkins Company, 1956.

Atkinson, Donald T.: *Magic, Myth and Medicine,* Cleveland, World Publishing Company, 1955.

Bakay, Louis: *The Blood-Brain Barrier with Special Regard to the Use of Radioactive Isotopes,* Springfield. Ill., Charles C Thomas, 1956.

Blank, Harvey, and Rake, Geoffrey: *Viral and Rickettsial Diseases of the Skin, Eye and Mucous Membranes of Man,* Boston, Little, Brown and Company, 1955.

Brams, William A.: *Your Blood Pressure and How to Live With It,* Philadelphia, Lippincott, 1956.

Ciba Foundation Symposium: *Experimental Tuberculosis,* Boston, Little, Brown and Company, 1955.

Duncan, Garfield G.: *A Modern Pilgrim's Progress for Diabetics,* Philadelphia, W. B. Saunders, 1956.

Fields, William S.: *Hypothalamic-Hypophysial Interrelationships,* A Symposium of the Third Annual Scientific Meeting of the Houston Neurological Society, Springfield, Ill., Charles C Thomas, 1956.

Fleck, H. Ronald: *Synthetic Drugs, A Handbook for Chemists and Physicians and Pharmachists,* London, Cleaver-Hume Press, Ltd., 1955.

Freud, Sigmund: *Totem and Taboo,* New York, W. W. Norton, 1950.

Gans, Henry: *Introduction to Hepatic Surgery,* Houston, Elsevier, 1955.

Hackett, George Stuart: *Joint Ligament Relaxation Treated by Fibrous-Osseous Proliferation,* Springfield, Ill., Charles C Thomas, 1956.

Hinshaw, H. Corwin: *Diseases of the Chest,* Philadelphia, W. B. Saunders, 1956.

Hollinshead, W. Henry: *Anatomy for Surgeons: Vol. 1, The Head and Neck,* New York, Paul B. Hoeber, Inc., 1954.

Jackson, Ruth: *The Cervical Syndrome,* Springfield, Ill., Charles C Thomas, 1956.

Laughlin, Henry P.: *The Neuroses in Clinical Practice,* Philadelphia, W. B. Saunders, 1956.

Leyton, Nevil: *Migraine and Periodic Headache,* ed. 2, London, William Heinemann, 1954.

Medical Department of the United States Army: *Preventive Medicine in World War II, Vol. III, Personal Health Measures and Immunization,* Washington, Office of the Surgeon General, 1955.

Menkin, Valy: *Biochemical Mechanisms in Inflammation,* Springfield, Ill., Charles C Thomas, 1955.

Parker, Harry Lee: *Clinical Studies in Neurology,* Springfield, Ill., Charles C Thomas, 1956.

Prick, J. J. G., and Sillevis Smitt: *Thallium Poisoning,* Houston, Elsevier, 1955.

Rosenfield, Isadore: *Hospital Integrated Design,* New York, Reinhold Publishing Company, 1950.

Strauss, Maurice B.: *Clinical Management of Renal Failure,* Springfield, Ill., Charles C Thomas, 1956.

Sternberg, Thomas H.: *Therapy of Fungus Diseases,* Boston, Little, Brown and Company, 1956.

United States Army Medical Service: *Vascular Surgery in World War II,* Washington, Government Printing Office, 1955.

Weller, Carl V.: *Causal Factors in Cancer of the Lung,* Springfield, Ill., Charles C Thomas, 1955.

Wolstenholme, G. E. W., and Millar, Elaine: *Ciba Foundation Symposium on Porphyrin Biosynthesis and Metabolism,* London, J. & A. Churchill, Ltd., 1955.

★ Books

Selection of Anesthesia

JOHN ADRIANI, M. D., *Director, Department of Anesthesiology, Charity Hospital; Professor of Surgery, School of Medicine, Tulane University of Louisiana; and Clinical Professor of Surgery and Pharmacology, School of Medicine, Louisiana State University, New Orleans. 327 pages. $6.50. Springfield, Ill., Charles C Thomas, 1955.*

This is a comprehensive and worth-while presentation of the factors which influence the selection of anesthesia. Although the author disavows any discussion of or help in the technique of administering anesthetics, he includes some valuable and helpful suggestions concerning apparatus and adjuncts such as endotracheal equipment.

The point in question is considered from three angles: pharmacology of drugs used, accompanying diseases, and operations proposed. As might be expected, the discussion is somewhat top-heavy with pharmacologic considerations, but it certainly is complete in its evaluation of anesthetic drugs in current use. In view of the present vogue in the usage of adrenal preparations, broader discussion of these preparations and their bearing on anesthesia could be desired. The consideration of accompanying pathology and the particular surgery proposed or required, as they influence the choice of anesthesia, are adequately treated. Apparently no disease or operative procedures are overlooked.

This book not only could prove helpful to students of anesthesia and be a constant reminder and companion of experienced anesthetists, but likewise should be a valuable reference for any physicians faced with the responsibility of making a choice or advising in the selection of anesthesia.

—Wilbur F. Robertson, M. D., San Antonio.

The Practice of Dynamic Psychiatry

JULES H. MASSERMAN, M. D., *Professor of Neurology and Psychiatry, Northwestern University, Chicago. 790 pages. $12. Philadelphia, W. B. Saunders Company, 1955.*

In his earlier book, "Principles of Dynamic Psychiatry," Dr. Masserman attempted to correlate various physiologic and psychologic concepts into a comprehensive system which he termed "biodynamics." The present volume extends biodynamic concepts to clinical psychiatry. Few men are better qualified for this work than Dr. Masserman, who is active both in psychoanalytic psychiatry and experimental physiology and psychology.

The present work consists of five parts. Part I discusses the methods and objectives of the psychiatric interview and presents a brief introduction to psychodiagnostic testing.

The introduction to part II is an excellent discussion of the inadequacies of present-day psychiatric diagnostic catagories. The following chapters deal with the neuroses, personality pattern disturbances, phobic-obsessive-compulsive reactions, psychophysiologic dysfunctions, mental deficiency and the psychotic disorders.

Part III attempts to answer the question: "How can the psychiatrist convey his findings and evaluations to his colleagues and to consultants in other fields without using the stilted, technical, and often misleading jargon with which psychiatry too long has been burdened?"

Part IV is a brief section dealing with certain theoretical concepts such as self, primal anxiety, feelings, and emotion.

Part V is an excellent exposition on the rationale and techniques of the various forms of psychotherapy. An integration of psychoanalysis and biodynamics is presented. The theoretical foundation of biodynamics is expressed in four basic principles:

> Principle I: All organisms are actuated by their physiologic needs.
>
> Principle II: Every person reacts not to some absolute reality but to its own interpretation of its milieu in terms of its individual needs, special capacities, and unique experiences.
>
> Principle III: Whenever the goal directed activities of an organism are partially or totally frustrated by external obstacles, the organism either changes its technique in further attempt to reach the same goal or deviates its behavior toward a partial or complete substitution of goals.
>
> Principle IV: When two or more urgent motivations are in sufficiently serious conflict so that the adaptive patterns attendant to each are mutually exclusive to the point of a paralyzing impasse, then the organism experiences mounting tension and apprehension reaching various levels of anxiety; while its somatic and muscular behavior becomes either ambivalent, poorly adaptive and ineffectively substitutive (i. e. "neurotic") or progressively more disorganized, regressive and bizarrely symbolic (i. e., "psychotic").

It is around these easily understood concepts which the author builds his ideas of therapy. This is an excellent text for medical students, residents, and any physician who is interested in doing psychotherapy.

—N. A. Endiocott, Jr., M. D., Austin.

Brain Mechanisms in Diachrome

WENDELL J. S. KRIEG, B. S. in Med., Ph. D., *Professor of Anatomy, Formerly Professor of Neurology and Director of the Institute of Neurology, Northwestern University Medical School. 188 pages. $7. Evanston, Ill., Brain Books, 1955.*

Within the confines of this relatively thin neuroanatomy of the human nervous system, Dr. Krieg has adapted the beautiful technique of diachrome to illustrate his text. Though the context of the volume is developed along the classic approach, considerable stress is placed upon the profusion of illustrations, many of which are done by the author himself. Emphasis is upon the interconnections of the nervous system.

Within a pocket on the front cover of the text appears a diachrome reconstruction of the human brain consisting of six double sheets of colored drawings depicting serial sections of the brain. A three dimensional effect is beautifully achieved. Each functional unit of the nervous system

is rendered in a different color, greatly enhancing the clarity and usefulness of the drawings.

This book must be seen and used to be fully appreciated. It will be most valuable for medical students and those particularly interested in neuroanatomy.

—Ralph A. Munslow, M. D., San Antonio.

★ Texas Medical Association

RECORD ATTENDANCE NOTED AT GALVESTON SESSION

A record attendance, adoption of policies of importance to the organization and the medical profession generally, and scientific fare of high caliber marked the 1956 annual session, April 21-25 in Galveston.

The total registration of 2,807 exceeded the highest previous mark by about 125, although the number of members in attendance, 1,473 was not a record. Dr. Denton Kerr, Houston, was named President-Elect to succeed Dr. Milford O. Rouse, Dallas, who was installed as President for the current year. Dr. Foy Moody, Corpus Christi, was elected Vice-President. The Secretary, Treasurer, Speaker of the House of Delegates, and Vice-Speaker of the House for the previous year were re-elected, and Dr. J. B. Copeland, San Antonio, was chosen to serve a full term in the Trustee position to which he had been appointed last July.

Dr. Robert Neblett, Canyon, as Councilor of the Third District; Dr. L. C. Heare, Port Arthur, as Delegate to the American Medical Association; Dr. Raleigh Curtis, Temple, as AMA Alternate Delegate; Dr. J. C. Terrell, Stephenville, as AMA Delegate Designate; and Dr. J. Layton Cochran, San Antonio, as AMA Alternate Delegate Designate were newly elected to their positions.

The 575 members of the Woman's Auxiliary present in Galveston installed Mrs. Richard C. Bellamy, Liberty, as President and named Mrs. H. S. Renshaw, Fort Worth, President-Elect.

Honor was paid to Dr. Holland T. Jackson, Fort Worth, by his selection as General Practitioner of the Year and to Dr. Charles S. Venable, San Antonio, who was elected to emeritus membership.

House Action

Provisional membership of 24 months and an indoctrination program on the state level were adopted by the House of Delegates after introduction of minority reports from the reference committee and considerable discussion. A third proposal recommended by the Board of Councilors a year ago in efforts to strengthen county medical societies —compulsory attendance at society meetings—was rejected.

The privileges of intern and resident members were curtailed, and additional Constitutional amendments to extend these and other limitations on inactive members were introduced.

Individualism and free enterprise received resounding support in the adoption of resolutions (1) urging a comprehensive study of all aspects of social security, (2) opposing federal aid to medical education, (3) opposing additional state hospitals for cancer patients, (4) inquiring into policy on civil service employees' medical service, (5) encouraging use of Salk poliomyelitis vaccine through normal channels of distribution and administration, and (6) approving the Bricker amendment.

Licensure of dispensing opticians was approved, but licensure of physical therapists and of nurse technicians trained in psychiatric nursing was disapproved.

Because of continued controversy over the merits of fluoridating public water supplies, approval of such measures was withheld and a decision reached to avoid further official consideration of this problem for the ensuing five years.

Concern over a continuing supply of paramedical personnel and cooperation with them for the benefit of the patient was noted in reports of financial support to the Texas Commission for Patient Care and plans for sponsorship through the Woman's Auxiliary of science fairs to encourage high school youngsters to enter the science and health fields.

Completion of the doctor distribution survey in Texas was announced.

Encouragement of greater participation in affairs of the state organization came with enlargement of four standing committees, cancer, tuberculosis, mental health, and industrial health (this latter a newly formed standing committee), to 10 members each and the opportunity of appointing from seven to nine members of reference committees instead of only seven as heretofore.

In addition to the new standing Committee on Industrial Health, similar status to permit continuity of effort was given to the Committee on National Emergency Medical Service, Committee for Liaison with Workmen's Compensation Insurance Companies, and Committee for Patient Care, which will replace the special Committee on Nursing Care and deal with other paramedical groups as well as nurses. Preliminary approval to make standing committees of the Committees on School-Physician Relationships and on Rural Health and Doctor Distribution also was given. Further study to include preventive as well as punitive provisions was recommended before establishment of the Committee on Liaison with the State Bars as a standing committee. The Committee on Library Endowment's request for its dissolution was approved.

Growth of the Association was reflected in reports that current membership is 6,800 (including 53 Negroes who have joined since House action qualified them a year ago) with 7,700 anticipated before the end of the year, that an average of 1,550 pieces of out-going mail were processed in the central office each working day from January through March, that 127 meetings attracting 6,100 persons were held in the headquarters building during 1955, that the Memorial Library now is serving physicians in 195 counties, and that membership in the Association probably will reach 16,300 by 1975.

Another sign of growth and increased expense to individuals working with the Association as well as to the organization itself was a decision to reimburse the President for a portion of expenses incurred in his official duties.

Plans for greater flexibility in choice of annual session sites and a decision to choose a location for sessions three years in advance likewise evidenced the need to care for greater membership.

An annual physical examination for each physician was recommended, and attention was called to the true group disability insurance program sponsored by the Texas Medical Association which has been provided for all members as a hedge against accident or illness.

It was voted to establish an annual Anson Jones Award to recognize meritorious medical journalism in the state, the first award to be announced at the 1957 annual session.

Scientific Program

Forty scientific exhibits were on display during the annual session, one of the largest presentations of the sort the Association has had in years. Winners among individual exhibitors were first place, Dr. Otto Lippmann, Austin, "Differential Diagnosis of Eye Conditions in General Practice"; honorable mention, Dr. Marvin G. Rape, Dr. James R. Fish, and Dr. Michael K. O'Heeron, Houston, "Plastic Reconstruction of the Lower Ureters." Commendation for initiative and effort also went to Drs. Morris Polsky, Austin; John E. Lindley, Houston; and Paul Williamson, Albuquerque, N. M. Institutional exhibit winners were first place, Professor Lewis Waters, Dr. Arthur Grollman, Mrs. Ruth Sanders, and Miss Patsy O'Neill, Department of Experimental Medicine, University of Texas Southwestern Medical School, Dallas, "Intermittent Peritoneal Lavage in the Treatment of Acute Renal Failure," and honorable mention, Dr. R. B. Crouch, Dr. George R. Herrmann, and Dr. M. R. Hetjmanek, Department of Internal Medicine, University of Texas Medical Branch, Galveston, "Digitalis Intoxication."

The motion picture program attracted an average of more than 55 viewers for each of 20 films, and 73 technical exhibits were shown.

Separate scientific presentations available to physicians registered at the Galveston meeting included 19 refresher courses, 11 general meeting addresses, 85 scientific section papers and panels, and 96 related organization papers and panels. Twenty-four out-of-state guest speakers and 15 special speakers (nonphysicians or doctors from outside the state or otherwise ineligible for membership) joined Texas Medical Association members in offering this array of medical information.

Nonscientific presentations, business sessions, memorial services, and assorted entertainment rounded out the program.

Journal Questionnaire Results

The opinions of almost 1,200 physicians are serving as the basis for certain changes in the *Journal* to make it conform more nearly to what its readers want. This many replies have been received from questionnaires sent to each member of the Texas Medical Association in January.

General practitioners accounted for approximately one-third of the returns; more than half were from physicians aged 31-50; more than one-fourth were from South Texas; and half were from physicians in cities of more than 100,000 population.

The tabulations show that the best read sections of the *Journal,* in descending order, are the Table of Contents, Original Articles, editorials, Coming Meetings, deaths, and the Texas Medical Association items. The least read sections, in ascending popularity, are the Auxiliary section, district society items, county society items, fillers, library news, miscellaneous news items, On Call, and the professional cards in the advertising section.

Most physicians agreed that the most helpful items printed annually are the annual session program, the Association membership list, the volume index, and the officer and committee list. The questionnaires showed that the least helpful annual items are the Auxiliary transactions and the Auxiliary membership list.

In the final tally, the following ranked, in order of choice, as being subjects about which Texas physicians desire more information: taxes-investments-finance, medico-legal problems including malpractice, points of view contrary to that of the Texas and American Medical Associations, new drugs and products, legislation, Texas medical history, office management, clinical-pathological conferences, and medical research in Texas.

The new typography and make-up adopted with the January issue were overwhelmingly approved.

★ American Medical Association

AMA's Chicago Convention

Nearly five full days of lectures, scientific and technical exhibits, color television, and motion picture presentations have been planned for the 12,000 to 15,000 physicians expected to attend the one hundred fifth annual meeting of the American Medical Association June 11-15 in Chicago.

Some 350 technical exhibits and more than 300 scientific exhibits will be on display all week for the benefit of the doctors and their guests, and on Wednesday (June 13) and Thursday mornings, the exhibit hall will be open "for doctors only." A few of the outstanding scientific features scheduled include fracture and fresh pathology exhibits, physical examinations for physicians, exhibit-symposiums on traffic accidents and arthritis and rheumatism, and special exhibits on cardiovascular diseases and pulmonary function tests.

The House of Delegates will convene at 10 a. m. June 11. The scientific assembly will begin at 9 a. m. June 11, and sections of the scientific assembly will meet all day June 12, 13, and 14, and on the morning of June 15.

Dr. Dwight H. Murray, Napa, Calif., will be inaugurated as President of the Association at special ceremonies June 12, and the program will be telecast to the general public over Chicago station WBKB, channel 7. The Blue Jacket Choir from the Great Lakes Naval Training Center, Great Lakes, Ill., will give a concert at the ceremony. All members and guests are invited to attend the President's reception and ball June 12 following the inauguration ceremony. Other entertainment will be the physicians art exhibition, various luncheons, dinners, and meetings of fraternity, alumni, and other organizations.

Texas delegates to the convention are Drs. T. C. Terrell, Fort Worth; Milford O. Rouse, Dallas; J. B. Copeland, San Antonio; Troy A. Shafer, Harlingen; John K. Glen, Houston; Robert B. Homan, Jr., El Paso; and James H. Wooten, Jr., Columbus. Alternates are Drs. J. C. Terrell, Stephenville; J. W. Rainer, Odessa; George Turner, El Paso; John L. Otto, Galveston; Robert W. Kimbro, Cleburne; L. C. Heare, Port Arthur; and L. H. Reeves, Fort Worth. Dr. Charles T. Stone, Jr., Galveston, will serve as delegate from the AMA Section on Internal Medicine.

Headquarters for the Woman's Auxiliary meetings will be the Conrad-Hilton Hotel, and a full schedule of activities has been arranged.

Registration will be held from 1 to 4 p. m. June 10, all day June 11-14, and until noon June 15, at the entrance to Navy Pier. General officers and members of the House of Delegates may register near the entrance to the Grand Ballroom at the Palmer House.

Information about hotel reservations may be obtained from the AMA Subcommittee on Hotels, c/o Chicago Convention Bureau, 134 North LaSalle Street, Suite 900, Chicago 2.

MEDICAL EXECUTIVES' INSTITUTE

Attendance at the first Institute of the Medical Society Executives Conference, held recently in Chicago, exceeded all expectations. Total registration was 260, and President Merrill C. Smith, Lincoln, Neb., said that this was nearly twice the number expected. The largest representation was from California, which sent 15 people. Texas ranked second with six, and New Jersey had five representatives.

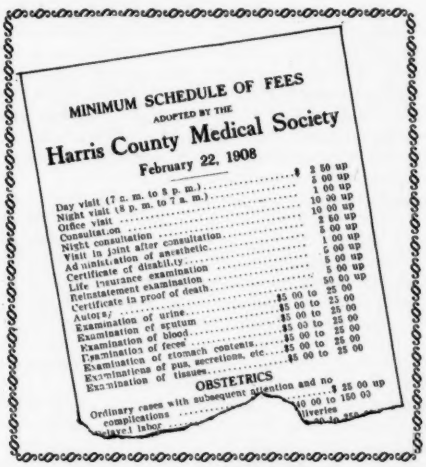
★ County Societies

Medical Costs

Recognizing that the cost of medical care has become a popular topic both for the lay public and the medical profession, the *Harris County Medical Society* made use of unusual reprinted enclosures in a special medical jurisprudence and public relations issue of its *Bulletin*. One reprint was from the Houston City Directory for 1886, the city's first, which listed the fees set by the Houston Medical Association. The second enclosure, the original of which was found in an old library book in Houston, was an official 1908 fee schedule of the Harris County Medical Society. Both leaflets were made available to physicians for office use or as mailing pieces.

The notice in the 1886 directory read:

> Office advice and prescription, $1 to $10; consultation, $10 to $25; visit in city, $2.50 to $5; night visit in city, $5 to $25; detention during day, per hour, $2.50; detention during night, per hour, $5; prescription for more than one member of the family, $2 extra.
>
> Visit to country, $1 to $3 per mile additional to city charges during day; $2 to $5 per mile during night; yellow fever, $50 to $150; small-pox, $50 to $150; cholera, $50 to $100.



MINIMUM SCHEDULE OF FEES
ADOPTED BY THE
Harris County Medical Society
February 22, 1908

Day visit (7 a. m. to 8 p. m.)	$ 2 50 up
Night visit (8 p. m. to 7 a. m.)	5 00 up
Office visit	1 00 up
Consultation	10 00 up
Night consultation	10 00 up
Visit in joint after consultation	2 50 up
Administration of anaesthetic	5 00 up
Certificate of disability	1 00 up
Life insurance examination	5 00 up
Reinstatement examination	5 00 up
Certificate in proof of death	50 00 up
Autopsy	$5 00 to 25 00
Examination of urine	$5 00 to 25 00
Examination of sputum	$5 00 to 25 00
Examination of blood	$5 00 to 25 00
Examination of feces	$5 00 to 25 00
Examination of stomach contents, etc.	$5 00 to 25 00
Examinations of pus, secretions, etc.	$5 00 to 25 00
Examination of tissues	

OBSTETRICS

Ordinary cases with subsequent attention and no complications	$ 25 00 up
Deliveries	10 00 to 150 00
Delayed labor	50 to 250

The minimum schedule of fees dated February 22, 1908, shows minimum fees almost identical to those of 1886, but leaving a larger margin of flexibility. Some fees, as listed, were: day visit (7 a. m. to 8 p. m.), $2.50 up; office visit, $1 up; examination of blood, $5 to $25; ordinary obstetrics case with subsequent attention and no complications, $25 up; appendectomy, $300 up; suture of the heart and pericardium, $1,000 up; and fracture of arm, $50 up.

By-Laws Change

Reports indicate that at many recent county medical society meetings, proposed by-laws changes involving provisional membership, indoctrination, and compulsory attendance at meetings have been discussed. The House of Delegates at the recent meeting of the Texas Medical Association approved the first two mentioned changes, but rejected the proposal that attendance at county society meetings be made compulsory.

Soon, each society will receive a directive from the Board of Councilors to amend its by-laws to conform with the revisions adopted at the state level. The provisional membership change requires that each county society provide 24 months of preliminary membership for applicants seeking membership. During this time, new members shall have all the privileges of regular membership. At the end of this period, the new members shall again be considered by the board of censors and approved before membership becomes permanent.

The indoctrination program will be held in Austin at the time of meetings of the Executive Council in January and September of each year, and provisional members will be required to attend at least one of these sessions before being eligible for regular membership.

Another state amendment affecting county societies provides that intern and resident members shall not have the right to vote or hold office.

Community Service

Tom Green-Eight, Cameron-Willacy, and Harris Counties Medical Societies are among those that have taken definite steps toward urging their members to contribute to community welfare. Cooperation between the medical society, city, and county for better care of indigents has been a project of the Tom Green-Eight group for nearly ten years. At a March 5 meeting in San Angelo, Dr. Joe Cornelison outlined the work during the previous several months, and reported that the city already has promised $50,000 per year to finance such a program. The county commissioners were to study the program and decide whether a like sum could be pledged by the county, Dr. Cornelison said. He advised that a social worker be employed to coordinate all efforts connected with the care of indigents in San Angelo.

At the same meeting, it was reported that volunteers were needed to give medical care to the boys at Boys' Ranch. This county society also has been investigating the possibility of a call system for physicians at the new municipal auditorium.

Recognizing the potential danger of discarding drugs in trash bins accessible for public use, the Cameron-Willacy physicians voted to destroy thoroughly all harmful drugs before placing them in public trash containers.

The Bulletin of the Harris County Medical Society printed in the April 17 issue a reminder that precinct conventions were to be held soon, and that participation in these meetings constitutes an important civic duty.

Legislation

Along with other items of legislative interest, the Harris County *Bulletin* spotlighted in its special medical jurisprudence and public relations issue H. R. 483, already passed by the United States House of Representatives, which would authorize the commissioning of osteopaths in the armed forces. A unanimous decision to oppose this bill by writing the appropriate authorities was made by members of the *Big Bend Counties Medical Society* at the April 9 meeting in Fort Stockton.

Scientific Work

Drug addiction is another topic which has been brought to the attention of the public in recent months, and in March one of the *Tarrant County Medical Society's* scientific programs was centered around that subject. Two presentations, "Clinical Impressions of Drug Addiction in a Select Group of Patients" and "Admission Procedures Relating to Addicts," were given by Drs. J. W. Osberg and James L. Baker, respectively, of the United States Public Health Service Hospital, Fort Worth. Other scientific programs heard by the Tarrant County group during March and April included "Recent Concepts in the Formation and Prevention of Urinary Calculi," by Dr. J. R. Winterringer, Fort Worth; and "Lethal Diseases of the Eye in Children," by Dr. Paul A. Rockwell, Fort Worth.

Members of the *Big Bend Counties Medical Society* heard Dr. Jack Postlewaite, El Paso, speak on "Laboratory Tests and Fluid Balance" at a March meeting in Fort Stockton. "Recent Advances in Therapeutics," a panel discussion by Drs. Brooks Mullen, A. C. Ressman, B. B. Shaver, Joseph W. Goldzieher, J. C. Meadows, and William J. Block, Jr., San Antonio, constituted the program for a March meeting of the *Bexar County Medical Society*. In Freeport, Doctor's Day was celebrated March 29 by members of the *Brazoria County Medical Society* and auxiliary. The guest speaker was Dr. George A. Constant, Victoria.

★ District Societies

Third District Society

April 11, 1956

The Third District Medical Society met April 11 in Plainview. A general session was held during the morning, and in the afternoon, sectional meetings in obstetrics and gynecology, surgery, medicine, and eye, ear, nose, and throat were held.

Guests included Dr. Stewart Wolf, chairman of the Department of Medicine, and Dr. Tullos O. Coston, associate professor of ophthalmology, University of Oklahoma Medical School, Norman; Dr. L. S. McGoogan, professor and chairman of the Department of Obstetrics and Gynecology, University of Nebraska College of Medicine, Omaha; Dr. Ormond S. Culp, associate professor of urology, Mayo Foundation, Rochester, Minn.; Dr. E. G. Holstrom, professor and chairman of the Department of Obstetrics and Gynecology, University of Utah College of Medicine, Salt Lake City; Dr. E. E. Menefee, associate professor of medicine, Duke University of Medicine, Durham, N. C.; and Dr. Joseph H. Ogura, assistant professor of otolaryngology, Washington University School of Medicine, St. Louis.

Following the scientific presentations, a social hour was held. It included a buffet dinner, entertainment, and an informal dance.

Tenth District Society

March 23, 1956

The spring meeting of the Tenth District Medical Society was held in Beaumont March 23. Drs. Michael E. De Bakey and Herbert Allen, Jr., both of Houston, presented papers on mediastinal tumors and on the uses of radioisotopes in diagnosis and treatment. A question and answer period followed the scientific presentations. About 47 members attended the scientific meeting and the short business meeting which followed.

WOMAN'S AUXILIARY

MRS. BELLAMY ASSUMES STATE PRESIDENCY

Mrs. Richard C. Bellamy of Liberty, who took office in April as the thirty-ninth President of the Woman's Auxiliary to the Texas Medical Association, was born in the Alamo city, the daughter of Mr. and Mrs. George B. Sayers. When she was a young girl, her family moved to Douglas, Ariz., where she was graduated from high school. She later attended the University of Arizona and the School for Girls in La Jolla, Calif.

MRS. RICHARD C. BELLAMY

A keen talent for detail in business aided her in rapid advancement, and she served the E. R. Squibb and Sons pharmaceutical house as an executive in Houston for some years. In this association, she met Dr. Bellamy. They were married July 17, 1938, in St. Paul's Methodist Church, Houston. Dr. Bellamy took his premedical work at Rice Institute and was graduated from Baylor University College of Medicine. They made their home in Daisetta until 1953, when they moved to Liberty.

Mrs. Bellamy is a person of varied interests. She has made valuable contributions to her community through her philanthropic and cultural services. She is a member of the board of directors of the National Muscular Dystrophy Research Foundation, Inc. She served as chairman of the executive committee of the Youth Center Community of Daisetta, and during World War II she was chairman of the Red Cross knitting committee. She is general chairman of entertainment of the Magnolia Ridge Country Club, a member of St. Stephen's Episcopal Church and active in its Guild, an active member of the Federated Club of Liberty, and past matron of Hull Chapter 737 of the Order of the Eastern Star.

Her hobbies, which are oil and china painting, give in-

teresting diversion to her and pleasure to her friends and family.

She was organizing president of her local medical auxiliary and has held every office in it. Furthermore, she has organized many other counties in her locale and served South Texas District as president. In the State Auxiliary, she has been Council Woman for District 10 several years, chairman of the Bulletin Committee twice (in 1950 winning first place in the National Auxiliary Bulletin contest), Revisions chairman, chairman of Texas Research to the Southern Medical Auxiliary, and Third Vice-President. In 1954-1955, as chairman of the workshop, she demonstrated a splendid leadership in inspiring members to know and appreciate their opportunities for service through Auxiliary affiliation. Last year, she was named President-Elect, and at the Conference of Presidents and Presidents-Elect in Chicago in November, 1955, she served on the legislation panel.

As a culmination of this excellent record, she will serve as President of the State Auxiliary for the current year, challenging the members with her slogan, "Health Education and Community Service," to go forward, into broader fields of service and activity. One of her first duties will be that of chairman of timekeepers at the convention of the Woman's Auxiliary to the American Medical Association in Chicago, June 11-15.

—MRS. P. R. DENMAN, Houston.

AUXILIARY CONVENTION

The climax of the 1955-1956 Auxiliary year was reached when, during the thirty-eighth annual session of the Woman's Auxiliary to the Texas Medical Association in Galveston in April, reports of all officers, committee chairmen, and county presidents showed a year of record accomplishment under the leadership of Mrs. Joseph H. McCracken, Jr., Dallas, President.

Dr. Dwight H. Murray, Napa, Calif., President-Elect of the American Medical Association, honored the Auxiliary with his presence. In his address he stressed new fields of endeavor for the Auxiliary and the importance of women's help and cooperation.

The 575 members who registered for the well planned convention also heard Mrs. Mason G. Lawson, Little Rock, Ark., President of the Woman's Auxiliary to the American Medical Association, who left her own state meeting in Arkansas to be in Galveston. Her remarks on national work and the part played by Texas were informative and stimulating. Mrs. John J. O'Connell, St. Louis, President of the Woman's Auxiliary to the Southern Medical Association, extended an invitation to its convention in Nashville in November.

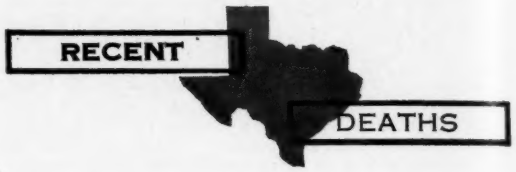
Dr. J. Layton Cochran, San Antonio, and Dr. Milford O. Rouse, Dallas, outgoing and incoming Presidents of the Texas Medical Association, brought messages of encouragement for continuation of the ever growing program of the Auxiliary. Miss Darlene Capps, Baytown, newly elected president of the State Future Nurses' Association, was introduced.

Philip R. Overton, Austin, general counsel for the Texas Medical Association, presented the charter incorporating the State Auxiliary, and he urged all county groups to take similar action.

Members of Galveston County Auxiliary, under the direction of their president, Mrs. M. A. Caravageli, were perfect hostesses. Auxiliary members will long remember the attention to detail for the business sessions, the luncheons, favors, style show, historical tour, and President's Party on the Pleasure Pier.

The meeting was closed with the installation of Mrs. Richard C. Bellamy, Liberty, as President; Mrs. H. S. Renshaw, Fort Worth, President-Elect; Mrs. Harold Lindley, Pecos, First Vice-President; Mrs. Ramsay H. Moore, Dallas, Second Vice-President; Mrs. William D. Nicholson, Third Vice-President; Mrs. Lynn Hilbun, Henderson, Fourth Vice-President; Mrs. R. B. G. Cowper, Big Spring, Fifth Vice-President; Mrs. William C. Barksdale, Borger, Treasurer; Mrs. J. L. Jinkins, Galveston, Recording Secretary; Mrs. E. R. Richter, Dayton, Corresponding Secretary; Mrs. Joe Thorne Gilbert, Austin, Publicity Secretary; and Mrs. John C. Parsons, San Antonio, Parliamentarian.

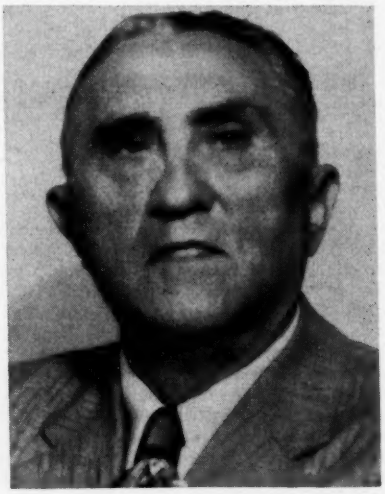
—MRS. GARLAND G. ZEDLER, Austin.



DR. FRED M. BOSO

Dr. Fred M. Boso, San Antonio, Texas, died February 24, 1956, of pyelonephritis.

He was the son of M. A. and Mary Kathryn (Flynn) Boso, and was born February 18, 1882, in Parkersburg, West Va. After attending public and normal schools in West Virginia, he obtained a teacher's certificate and did other college work at McKendree College, Lebanon, Ill. He was graduated in 1907 from St. Louis University College of Medicine, St. Louis, and later did postgraduate work at



DR. FRED M. BOSO

Johns Hopkins University School of Medicine, Baltimore. He had practiced in Tulsa, Okla., prior to moving in 1930 to Amarillo; he moved again in 1932 to San Antonio, where he practiced until the time of his death. Dr. Boso had served as medical director of the Tulsa Hospital, and was an honorary staff member of the Santa Rosa Hospital, consultant surgeon for International-Great Northern Railroad Company, Gulf Coast Lines, and police and fire department physician in Tulsa.

Dr. Boso was a member of the Bexar County Medical Society, the Texas Medical Association, the American Medical Association, the American Heart Association, and the

Elks and Odd Fellows Lodges. He and a partner discovered the first uranium field in Karnes County. Dr. Boso also had been in the oil business in Tulsa and Amarillo.

Miss Mae Witt Brown and Dr. Boso were married February 3, 1919, in Tulsa. Survivors include Mrs. Boso; one son by a former marriage, Fred M. Boso, Jr., San Antonio; a brother, Lowell Boso, San Antonio; and a niece, Kathryn Dawson, Caracas, Venezuela.

DR. GEORGE H. CANDLIN

Dr. George Henry Candlin, Blanco, Texas, died January 4, 1956, of a cerebral hemorrhage.

Dr. Candlin was born May 4, 1880, in Wharton. His parents, Henry and Clara (King) Candlin, were English immigrants. After attending high school in Kerrville and business college in Dallas, Dr. Candlin enrolled in the Eclectic Medical College, Cincinnati, Ohio, from which he was graduated in 1906. He interned in a hospital in Chicago and practiced briefly in Eaton, Colo., before moving in 1911 to Presidio. He moved to Dolores and was the physician for the Cannal Coal Company from 1921 until 1926; at that time, he began his practice in Laredo. Dr. Candlin retired in 1954, and moved to his ranch home in Blanco.

He was a member of the Texas Medical Association through the Webb-Zapata-Jim Hogg Counties Medical Society, of which he was a past secretary and president. He also was a member of the Masonic Lodge and the Optimist Club, and was a steward in the Methodist Church. He was active in the work of the Red Cross and Salvation Army.

Miss Myrtle Dean and Dr. Candlin were married September 11, 1915, in Fort Worth. Mrs. Candlin and three daughters, Mrs. D. C. Warrington, Reading, Pa.; Mrs. B. M. Copeland, Fort Worth; and Mrs. A. S. Depew, Houston, survive.

DR. D. P. JONES

Dr. Don Paul Jones, Plainview, Texas, died February 27, 1956, in a local hospital of acute abdominal hemorrhage.

Dr. Jones was born in Salem, Ill., January 28, 1892, and was the son of Dr. Joshua T. and Carrie E. Jones. After his graduation from high school in Salem, he entered St. Louis University, from which he received bachelor of arts and doctor of medicine degrees. Later, he did postgraduate work at the University of Bordeaux, France, and studied radiology in Kansas City. He interned in the Kansas City General Hospital. After his return from World War I, Dr. Jones moved to Plainview, where he had practiced medicine 36 years.

He had been a member of the Texas and American Medical Associations through the Hale-Floyd-Briscoe Counties Medical Society continuously since 1920, and had served as president of that society in 1941. He also was a member of the Third District Medical Society, Masonic Lodge, American Legion, Veterans of Foreign Wars, and Alpha Kappa Kappa medical fraternity.

During World War I, Dr. Jones was a first lieutenant in the Army Medical Corps, and spent 19 months of his service in France.

He was married October 26, 1919, in Fraser, Colo., to Miss Elizabeth H. DeBoer. Mrs. Jones survives, as do their two daughters, Mrs. C. W. Chapman, Schenectady, N. Y., and Mrs. Joseph D. Tatum, Medford, N. J., and one sister, Mrs. Thomas A. Bay, Plainview.

DR. MARVIN H. BARTLETT

Dr. Marvin Harold Bartlett, Garland, Texas, died at his home April 8, 1956.

Dr. Bartlett had practiced in Garland for two years; prior to that time, he had been in practice in Cameron for four and a half years.

He was born August 28, 1923, in San Antonio; his parents were Minnie Lee (Koenig) and Marvin C. Bartlett. After attending St. Mary's University, San Antonio, he entered Baylor University College of Medicine, Houston, and was graduated in 1947. He interned one year in Hermann Hospital, Houston, then spent a year in residency there in obstetrics and gynecology. In 1949, he began practicing his specialty in Cameron. He had done postgraduate work in cystoscopy at the Cook County Graduate School of Medicine, Chicago.

Dr. Bartlett was in the Army Specialized Training Corps in Houston for two years, 1944-1946, and served in the Army Medical Corps as a first lieutenant at Fort Hood from March, 1951, until October, 1951. On August 29, 1947, Miss Dorothea Hahn and Dr. Bartlett were married in Cuero.

DR. MARVIN H. BARTLETT

A member of the Texas and American Medical Associations through the Milam or Dallas Counties Medical Societies throughout his professional career, he was a former secretary-treasurer of the Milam County group. He also was a member of the American Academy of General Practice, the Dallas Southern Clinical Society, and the Masonic Lodge, and was a vestryman of St. David's Episcopal Church in Garland.

Survivors are Mrs. Bartlett; three children, Christina Lynn, 7; Jana Lee, 6; and Marvin Bruce, 5, all of Garland; his mother, Mrs. B. M. Payne, Marion; and a brother, O. D. Bartlett, San Antonio.

DR. RUSSELL EARLE TYLER

Dr. Russell Earle Tyler, Bowie, Texas, died of pneumonia March 8, 1956, in a Wichita Falls hospital.

Dr. Tyler was born December 14, 1893, near Honey Grove, Texas; his parents were Mr. and Mrs. J. N. Tyler. He received his preliminary education in public schools in Redwater, Seymour, and Gainesville, and was graduated with a doctor of medicine degree from the Medical Department of Texas Christian University, Fort Worth, in 1915. His internship was spent at St. Joseph's Hospital, Fort Worth. Dr. Tyler practiced two years in Chalk, Texas, then entered

the Army Medical Corps in 1918, and served as a first lieutenant at Camp Travis in San Antonio. He practiced in Southland, 1920-1925; Paducah, 1925-1931; Bowie, 1931-1935; Ringgold, 1935-1944; Waco, 1944-1946; and Bowie, 1946-1955. He had been a member of the Texas Medical Association throughout most of his professional career through the McLennan or Clay-Montague-Wise Counties Medical Societies, and was president of the latter group in 1947. He also was a member of the Methodist Church.

Dr. Tyler was married in Chalk January 3, 1916, to Miss Hazel Laura Thomson; she died in November, 1953. Surviving are one son, Dr. Joe E. Tyler, Tulsa, Okla.; three daughters, Mrs. Margaret DeMoss, Mrs. June Sanford, and Mrs. Nelda Merrette, all of Bowie; and a brother, J. D. Tyler, Pleasanton.

DR. L. P. HIGHTOWER

Dr. Lovick Pierce Hightower, Fort Worth, Texas, died March 8, 1956, of a coronary occlusion.

He was a member of a distinguished pioneer family, his ancestors coming to Virginia about the time of the settlement of Jamestown. Son of Mr. and Mrs. Coleman Hightower, he was born November 6, 1887, in Granbury. He attended high school in Granbury and was a graduate of Polytechnic College, Fort Worth. Later, he received his bachelor of arts degree from Southern Methodist University, Dallas, and completed his medical education at Baylor University College of Medicine, Dallas, in 1932. He interned at the Harris Clinic-Hospital, Fort Worth.

During World War I, he served with the Army at Camp Sheridan, Ala. In 1924, he was married in Fort Worth to Miss Mabel Puckett. Dr. Hightower practiced medicine in Fort Worth throughout his career, specializing in internal

DR. LOVICK P. HIGHTOWER

medicine and allergy. He had been associated with the Terrell Laboratories and Clinic for the past 18 years, and was a staff member of St. Joseph's, All Saints, and Harris Hospitals.

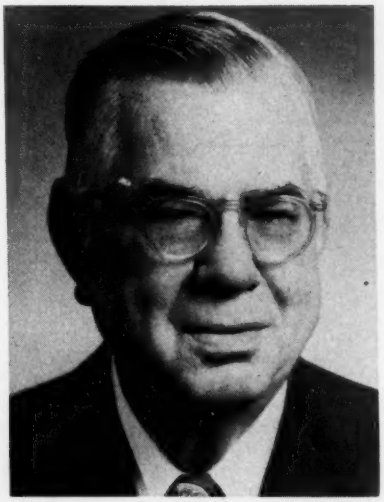
Dr. Hightower was a fellow of the American College of Allergy and a member of the Tarrant County Medical Society; Texas Medical Association; American Medical Association; Fort Worth Academy of Medicine; Texas Heart Association; Association of American Physicians and Surgeons; the Fort Worth Club; and the First Methodist Church, in which he was a former member of the board of stewards.

Survivors include his wife, Fort Worth; a sister, Miss Lurine Hightower, a former member of the Texas Medical Association Library staff, Fort Worth; three brothers, Roy H. Hightower, Granbury; the Rev. C. O. Hightower, Weatherford; and E. Coleman Hightower, Fort Worth.

DR. JOHN E. HILL

Dr. John Ewart Hill, Marshall, Texas, chief surgeon for the Texas and Pacific Railway, died January 11, 1956, of coronary thrombosis.

Dr. Hill was the son of William Cook Hill, an Irish immigrant, and Louisa Mathilda Hill. He was born November 28, 1891, in Jefferson, Texas, and attended public schools there. After receiving his bachelor of arts degree from the Methodist University, Guthrie, Okla. (now Oklahoma City University), he entered the University of Texas Medical Branch, Galveston, from which he was graduated in 1918.



DR. JOHN E. HILL

He joined the staff of the Texas and Pacific Railway Hospital in Marshall immediately after his graduation, and served his internship and residency there as assistant house surgeon. He subsequently became house surgeon and assistant chief surgeon, and was appointed chief surgeon in 1954, a position which he held at the time of his death. In this capacity, he also served as chief surgeon for the entire Texas and Pacific Railway and its hospital group.

He was a member of the Texas Medical Association, American Medical Association, and Harrison County Medical Society, and was president of his county society in 1931 and 1949. Dr. Hill also was a member of the Masonic Order, Rotary International, Elks Club, and the Marshall Chamber of Commerce.

On November 15, 1921, Miss Nancy Allen and Dr. Hill were married in Marshall. Mrs. Hill; their two children, Mrs. John P. Tucker, Jr., Longview, and Lt. William J. Hill, USAF, Westover, Mass.; and three grandchildren survive.